THE GREAT COURSES®

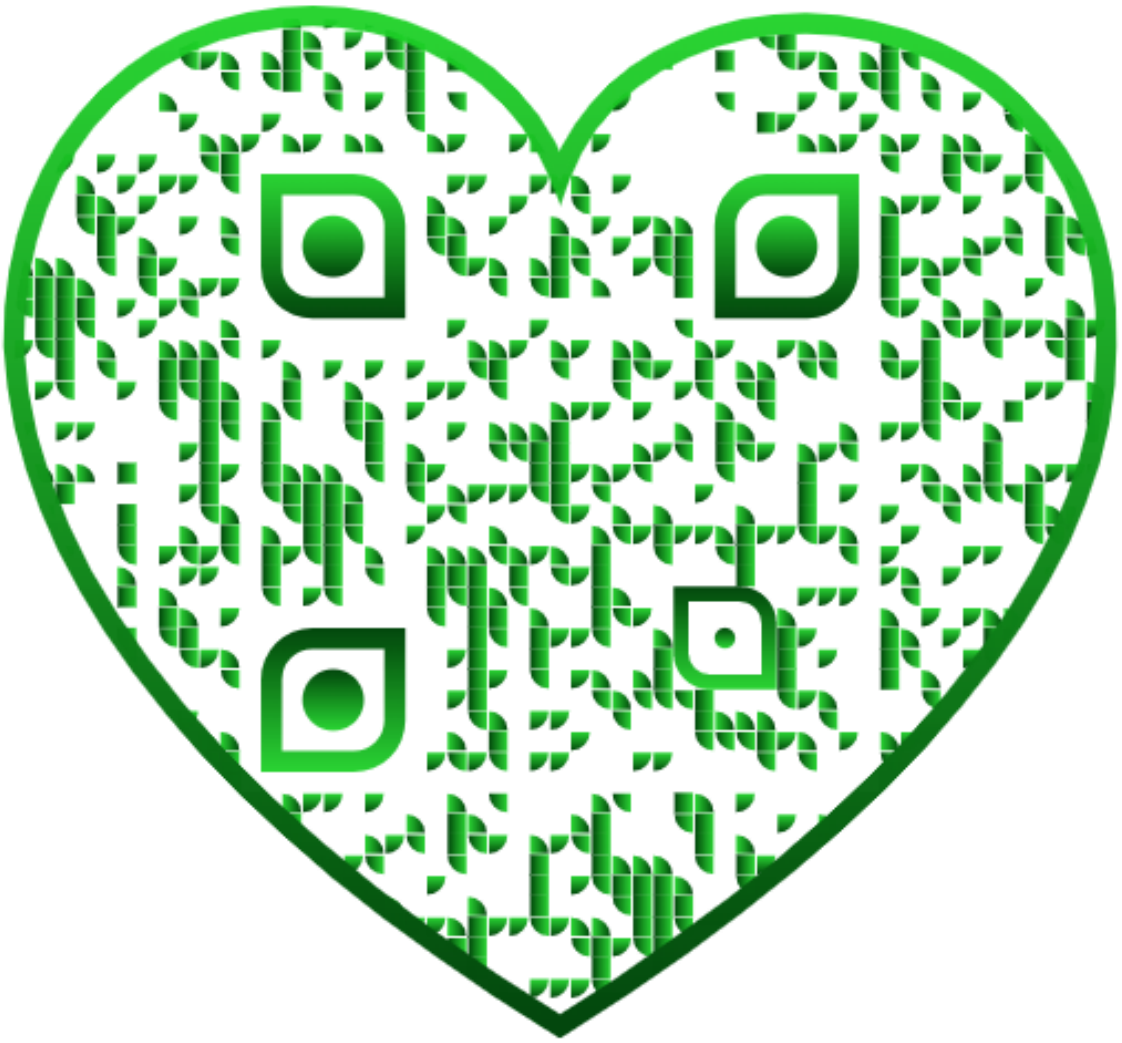
Topic
History

Subtopic
Ancient History

Maya to Aztec: Ancient Mesoamerica Revealed

Course Guidebook

Professor Edwin Barnhart
Maya Exploration Center



Edwin Barnhart, Ph.D.

Director
Maya Exploration Center

Professor Edwin Barnhart is Director of the Maya Exploration Center. He received his Ph.D. in Anthropology with a focus on Archaeology from The University of Texas at Austin in 2001; his dissertation was entitled *The Palenque Mapping Project: Settlement Patterns and Urbanism in an Ancient Maya City*. Professor Barnhart has more than 20 years of experience as an archaeologist, explorer, and instructor in North, Central, and South America and has published more than a dozen papers and given presentations at eight international conferences.

Professor Barnhart's involvement in Maya studies began in 1990 as an archaeological intern in the ruins of Copan, Honduras. In January of 1996, he was invited to return to Copan and help a team from the University of Pennsylvania excavate the early acropolis and the tomb of the city's lineage founder. From 1992 to 1995, Professor Barnhart studied New World art, iconography, and epigraphy (hieroglyphic translation) under the late Dr. Linda Schele at The University of Texas at Austin. During that time, he intensively studied the Andean culture, writing a number of papers about Moche shamanism as seen through art and iconography.

In 1994, Professor Barnhart began working as a surveyor and University of Texas field school instructor in the jungles of northwestern Belize. After finding numerous small villages, he discovered the ancient city of Maax Na ("Spider-Monkey House"), a major center of the Classic Maya period. Professor Barnhart mapped more than 600 structures at Maax Na between 1995 and 1997 before moving his research focus to Chiapas, Mexico. He received his master's degree in Latin American Studies in May of 1996 and began teaching anthropology classes at what is now Texas State University the following September. He taught archaeology and anthropology classes there until 1998, when he was invited by the Mexican government to direct

the Palenque Mapping Project, a three-year effort to survey and map the unknown sections of Palenque's ruins. More than 1,100 new structures were documented, bringing the site total to almost 1,500. The resultant map has been celebrated as one of the most detailed and accurate ever made of a Maya ruin.

In 2003, Professor Barnhart became Director of the Maya Exploration Center, an institution dedicated to the study of ancient Maya civilization. He has led dozens of student groups on journeys through Mexico, Guatemala, Peru, and Bolivia.

Over the last 10 years, Professor Barnhart has appeared multiple times on the History Channel; the Discovery Channel; and NHK, a Japanese public television network. In addition, he is a Fellow of the Explorers Club and teaches University of Texas travel courses for college professors on ancient Andean and Mesoamerican astronomy, mathematics, and culture. For The Great Courses, he has also taught *Lost Worlds of South America.* ■

Table of Contents

INTRODUCTION

Professor Biography i
Course Scope 1

LECTURE GUIDES

LECTURE 1
The Maya, Aztecs, and Mesoamerica 5

LECTURE 2
Olmec Civilization Emerges 12

LECTURE 3
Olmec Art as the Mother Culture 18

LECTURE 4
Olmec Contemporaries 25

LECTURE 5
Mesoamerican Plants, Cuisine, and Medicine 32

LECTURE 6
Early Highland Maya—Izapa to Kaminaljuyu 39

LECTURE 7
Preclassic Maya Lowlands—El Mirador 46

LECTURE 8
The *Popol Vuh*—Creation and Hero Twins 52

LECTURE 9
The Great City of Teotihuacan 58

LECTURE 10
How the Maya Mastered Mathematics 65

Table of Contents

LECTURE 11
The World's Most Elaborate Calendar....71

LECTURE 12
Tikal—Aspiring Capital of the Maya World....78

LECTURE 13
Maya Hieroglyphs—Breaking the Code....85

LECTURE 14
Maya Astronomy and Building Orientations....92

LECTURE 15
The Dresden Codex....99

LECTURE 16
Palenque—Jewel in the West....105

LECTURE 17
Sacred Geometry in Art and Architecture....112

LECTURE 18
Illuminating Works of Maya Art....118

LECTURE 19
Copan—Jungle Dynasty of the East....124

LECTURE 20
Calakmul—The Mighty Snake Kingdom....131

LECTURE 21
The Mesoamerican Ball Game....137

LECTURE 22
Enigmatic West Mexico and Shaft Tombs....144

LECTURE 23
Classic Maya Collapse—Cities Abandoned!....151

Table of Contents

LECTURE 24
New Cities of the Terminal Classic—Uxmal 157

LECTURE 25
Monte Alban and Zapotec Rule over Oaxaca.....164

LECTURE 26
The Mixtec Rise—Gold and Epic Stories 171

LECTURE 27
The Great Pyramid of Cholula and El Tajin 178

LECTURE 28
Cacaxtla Murals and Xochicalco 185

LECTURE 29
The Toltecs—Role Models or Myth?.....192

LECTURE 30
Chichen Itza—Maya Capital of the Yucatan.....199

LECTURE 31
League of Mayapan—Maya New World Order.....206

LECTURE 32
Mesoamerican Religion.....213

LECTURE 33
Aztec Origins—Arrival and Rise of the Mexica.....220

LECTURE 34
The Aztec Capital of Tenochtitlan 226

LECTURE 35
Life in the Aztec World.....233

LECTURE 36
How the Aztecs Expanded Their Empire 240

Table of Contents

LECTURE 37
Independent Tarascans—Desert Warriors.....248

LECTURE 38
Paquime—Northernmost Mesoamerican City? 255

LECTURE 39
Illuminating Works of Aztec Art 263

LECTURE 40
Tulum—Aztecs at the Ancient Maya Port City 269

LECTURE 41
First Contact with Europe in Mesoamerica.....276

LECTURE 42
The Siege of Tenochtitlan 283

LECTURE 43
Conquest of the Maya and Landa's Legacy 290

LECTURE 44
Fall of the Last Maya Kingdom—The Itza 297

LECTURE 45
The Caste Wars of Yucatan.....304

LECTURE 46
Echoes of the Past in Mexico 311

LECTURE 47
Maya Survival and Revival 318

LECTURE 48
Frontiers of Mesoamerican Archaeology 325

Table of Contents

SUPPLEMENTAL MATERIAL

Bibliography.....332

Maya to Aztec: Ancient Mesoamerica Revealed

Scope:

This course is a tale of two great cultures, and many of others in between—often great in their own right—that helped make them possible. The Maya and the Aztecs occupied a land that's collectively called Mesoamerica. Mesoamerica encompasses all of Mexico from coast to coast, from the Sonoran Desert, just south of the Pueblo cultures of the American Southwest, down through Guatemala and Belize and partway into Honduras and El Salvador, bordered by the Lenca culture of eastern Honduras. The territory is delineated not so much by its varied geography—from deserts to rainforests—but by the presence of a certain set of mutually held traits that allow us to call these cultures *empires*. Those traits include shared use of plants, a commonly held calendar, a pattern of organizing themselves into city-states (even in the dominant-capital model governing the tribute empire of the Aztecs), ancestor worship, and the infamous penchant for human sacrifice.

The Maya have been around for millennia, while the Aztecs appeared late and lasted only a few centuries. Preceding both were thousands of years of transition from nomadic to sedentary life, after which the peoples of Mesoamerica went through three major periods of cultural development. Maya archaeology calls these the Preclassic, Classic, and Post-Classic periods. The lines between these periods are marked by major changes in the trajectory of Mesoamerican civilizations. The Preclassic (2000 B.C.–200 A.D.) is typified by the rise of Mesoamerica's first great civilization—the Olmec. Rising from the agriculturally rich lowlands of Tabasco around 1700 B.C., these people built massive earthen pyramids and multi-ton stone effigies of their leaders. Their ideas were transmitted along trade networks far and wide, and ideas from abroad came back to the Olmec through the same channels. The exchange between the Olmec and their neighbors set the foundations of a cultural pattern that would persist until the Spanish arrived some 3,000 years later.

One by one, the Olmec cities we call San Lorenzo, La Venta, and Tres Zapotes faded away by around 500 B.C., but Olmec ideas of urban living and divine kingship continued to flower. More and more cities were built across Mesoamerica, growing in size and number for centuries. In particular, the Maya built such cities as El Mirador and made interconnected advances in mathematics, calendar making, and astronomy, which influenced their buildings, their art, and even their creation story, the *Popul Vuh*.

The opening of the Classic period around 200 A.D. is marked by the emergence of notably larger cities that absorbed smaller ones around them into city-states. In the Peten rainforest in and around northern Guatemala, a collection of Maya cities, such as Tikal, Palenque (in the west), Copan (southeast), and Calakmul (north), established regional power through a complex system of alliances, intermarriages, and wars. Farther to the west, in Oaxaca, was the Zapotecs' hilltop city of Monte Alban. But the biggest force of the Classic period sprang from a single great capital even farther west, the northern city of Teotihuacan. Growing steadily from 250 B.C. in a valley just north of modern-day Mexico City, by 300 A.D., Teotihuacan was ready and willing to push outward. Its military-backed influence spread south and east across Mesoamerica, pushing through Oaxaca into the Maya world and, ultimately, as far as modern-day Honduras.

The extent and nature of Teotihuacan's control over Mesoamerica remains shrouded in mystery, but its influence is evidenced everywhere by a clear escalation of violence and warfare. However, as we know, those who live by the sword die by the sword: Teotihuacan's end came when the city was burned to the ground around 650 A.D. The demise of the city left a power vacuum that was felt everywhere. Some city-states struggled on longer than others, but one by one, the great cities of the Classic period were abandoned. By 850 A.D., virtually every city that had started in the Early Classic period was crumbling and growing moss.

No chain of historical events is as neat as archaeologists would like to make it appear, and those in Mesoamerica are no exception. Not every region was on the decline as the Classic cities failed. New cities emerged after the fall of Teotihuacan, especially in Central Mexico. The exchange of cultural ideas and trade goods actually increased at that time. We see Maya people adopting

ideas from Central Mexico and peoples of Central Mexico adopting Maya ideas. In the middle, the long rule of the Valley of Oaxaca by the Zapotecs of Monte Alban came to an end, and the Mixtec people rose to fill the void.

The Post-Classic period, starting roughly at 900 A.D., began with exchange between newer Mesoamerica city-states, with no clearly dominant culture. The strength of cultural exchange during the Early Post-Classic, and our continued weak understanding of its mechanisms, is typified by the "twin cities" of Chichen Itza and Tula, located more than 800 miles apart at nearly opposite ends of the Mesoamerican world. Archaeologists still debate which city influenced which. One southeast in the heart of Maya Yucatan and the other the Toltec capital (later idealized by the Aztecs) northwest of the Valley of Mexico, they shared a nearly identical program of art and architecture, and they did so until the end, when both cities were abandoned in the early 1200s.

The pattern of independent city-states continued until the Aztecs from the northern deserts came to settle on the shores of Lake Texcoco in the Valley of Mexico. They began as mercenaries for hire and interlopers but slowly gained the favor and respect of local lords. They put themselves in the service of the valley's most powerful group, the Tepenacs, in exchange for the right to build their own city on manmade islands in the lake. Then in the early 1400s, the Aztecs led a rebellion against the Tepenacs, assuming power as part of a partnership called the Triple Alliance. Together with their new partners, they dominated all of Central Mexico, creating a super-state over all of the once-independent city-states. Military dominance, demand of tribute, and frequent human sacrifices were the hallmarks of this new empire. Though they were in an alliance with their neighbors, the Aztecs maneuvered their capital city, Tenochtitlan, to be the nexus for all deliveries of tribute. By controlling the wealth, they controlled the empire.

The Aztecs ruled with an obsidian fist, controlling their ever-expanding empire through fear. City-states either obeyed and paid their excessive tribute or faced the wrath of the Aztec army. By the time the Spanish arrived, the Aztecs had expanded to the border of the Maya world and an assault was in process. Rumors of strange, hairy men in oddly built boats had been circulating for years, and one fateful day in the spring of 1519, Hernan

Cortes and his conquistadors landed on the shore of modern-day Veracruz. Mounted on four-legged beasts, they marched into the Aztec capital. For a time, a friendship was beginning, but then a Spanish attack on unarmed citizens resulted in the deaths of hundreds of conquistadors. Those who survived escaped and regrouped back in Veracruz.

Over the next year, allied with tens of thousands of native peoples who hated the Aztecs, Captain Cortes and his army attacked the Aztec capital. On August 13, 1521, the Aztec empire officially surrendered, and the Spanish proceeded to build a colonial empire of their own, using the cities, labor, and resources they had conquered. The Aztecs' name for themselves (the Mexica) was revived in the 19th century with the founding of the nation of Mexico, which has retained interesting aspects of its former Mesoamerican heritage down to today.

During the decades immediately following the conquest, a combination of infectious diseases and Spanish military campaigns subdued most of Mesoamerica. The Maya of Yucatan and the northern jungles of Guatemala were a notable exception, resisting and rebelling against Spanish domination well into the 19th century.

Today, 500 years later, only fragments of once-vibrant cultural traditions remain, but archaeologists continue to find new cities, discover new treasures, and glean surprising new insights. Whether concealed by remote rain forests or modern-day cities (such as ancient Kaminaljuyu under Guatemala City or Tenochtitlan beneath present-day Mexico City), what does remain is important to our global patrimony and worthy of both preservation and celebration. ■

The Maya, Aztecs, and Mesoamerica

Lecture 1

In this course, we will explore two prominent Mesoamerican cultures, the Maya and the Aztec, whose advances in science, technology, and art in that part of the world were far greater than most people realize. In addition to the Maya and the Aztec, we will also discuss a number of other distinct but lesser-known cultures in the region that shared a number of traits with the Maya and Aztec—such as the use of calendars and the practice of human sacrifice. The presence of those cultural traits creates the borders of an entire region referred to as *Mesoamerica*—a region that straddles today's North America and Central America.

Two Prominent Cultures: Maya and Aztec

- Although the Maya and the Aztec shared many cultural traits, there were some significant differences between them. For example, they occupied very different time frames. The Maya have endured for 4,000 years, beginning in 2000 B.C. in Guatemala. The Aztec, by contrast, lasted for less than 300 years. The Aztec, who called themselves the Mexica, took over the Valley of Mexico in 1427 and controlled most of Mexico until the Spanish arrived.

- Another difference was in their locations. The Maya were in the south—in Guatemala, the Yucatan Peninsula, and Chiapas and the surrounding states. The Aztec capital of Tenochtitlan was farther north, at the site of today's Mexico City. The Maya Pacific coast was controlled from the 1460s by the Aztec, and they had plans for a Yucatan assault when the Spanish arrived.

- The two cultures had differences in political organization, as well. The Maya lived in city-states, which were ruled by council governments. The Aztec set up a dominant capital model, to which many city-states paid tribute. The Maya spoke at least 29 different languages; the Aztec spoke only one.

- The Maya and the Aztec shared many similarities, however, such as the architecture of temples and pyramids, their tools, and their foods. Both cultures followed essentially the same calendar, and there was significant overlap in their pantheon of gods and creation stories. They both practiced human sacrifice.

Contact with Europe and North America

- Among the dozens of cultures and subcultures within Mesoamerica, the Aztec and the Maya are by far the most well-known. The Aztec gained repute through the first contact with Europeans. When Cortes arrived in 1519, the Aztec were ruling over most of Mesoamerica. Their name, Mexica, became the name Mexico. Their capital became the capital of New Spain. Most of the contact Europeans had, in those first decades, was with the Aztec, with Nahuatl speakers.

© Saiko/Wikimedia Commons/CC BY 3.0.

Stories of fabulous Aztec wealth captivated the imagination of Europe in the 1500s.

- Aztec wealth was legendary; stories of immense stores of gold and silver spread across Europe. In contrast, the Maya had no gold and possessed no empire to seize. But then, in the 1840s, John Lloyd Stephens and Frederick Catherwood made their famous expeditions to Central America and Chiapas and Yucatan. Stephens, an American ambassador to Central America, had read accounts about the Maya ruins. He hired Catherwood, a noted artist, to accompany him on his voyages and create a visual record.

- Stephens explored the Maya ruins of Copan in Honduras, then purchased the whole complex for $50. He also explored Palenque

and other cities, such as Uxmal, Chichen Itza, and Tulum. He published his adventures in *Incidents of Travel*, which became a worldwide bestseller.

- The following century saw the first scientific studies of Maya civilization. Maya ruins were connected to codices found in Europe, demonstrating that the Maya had had knowledge of calendars and astronomy.

- The first photographs of the ruins were taken in the 1890s; the Carnegie Institution started excavating in the 1900s. In 1952, Alberto Ruz discovered the tomb of Pakal at Palenque, which had a 20-ton sarcophagus inside its own crypt. Inside was fabulous wealth. There were treasures to be found in the Maya ruins after all.

Chronological Overview of Mesoamerica

- The history of Mesoamerica comprises four broad time periods: the Preclassic, from about 2000 B.C. to 200 A.D.; the Classic, from 200 to 900; the Terminal Classic, from 900 to 1000; and the Post-Classic, from 1000 to 1521, when the Spanish conquered the Aztec.

- Prior to the Preclassic period were the Paleo-Indian and the Archaic periods. The Paleo-Indian period began about 10,000 B.C., when nomadic tribes were following mammoths and bison. They headed south, from what is now the United States, and made it to Mexico at the end of the last ice age.

- At that time, the northern deserts of Mexico were grassy plains feeding large herds. When the climate changed, the desert dried out and the big game animals died off. Nomadic tribes, trapped in the south, had to come up with new subsistence strategies to survive.

- The solution was farming—a key transition that began the Archaic period. Somewhere around 7000 B.C., we find the first staple corn crops in Mexico. Farming allowed sedentary living, and that was the beginning of permanent villages. Thousands of years later, about 2000 B.C., we begin to see larger villages and intensive agriculture

that utilized irrigation systems to increase crop yields. More food meant a population increase, which population led to more complex political systems and, in turn, emerging leaders. That's when the Preclassic period, an organized civilization, begins.

Preclassic Period

- The first Preclassic cities, founded by the Olmec, arose in the center of Mesoamerica, in the hot, swampy tropical river basins of the Isthmus of Tehuantepec. The Olmec have been called "Mesoamerica's mother culture." But as you will understand in this course, in Mesoamerica, there was a more complex structure than just a single mother culture.

- The Olmec city of San Lorenzo was established sometime around 1700 B.C. Its population grew and leaders emerged. Religion provided a right for those leaders to rule, and public monuments and temples celebrated the religion and those leaders. By 1200 B.C., the Olmec had created a vast trade network. But by 500 B.C., Olmec civilization had faded away. In its wake, individual cultural identities were taking shape among the Olmec's former trading partners, such as the Maya and the Zapotec. New cities sprang up, and new ways of life emerged.

Classic Period

- By 200 A.D., those new cities became much larger, a phenomenon that issued in the Classic period. Maya civilization expanded out from the Guatemalan highlands into the jungles of the Peten and into the Yucatan Peninsula. There were pyramids and stelae in every site; hieroglyphic writing and art forms flourished. This was the "Age of Maya Kings."

- In the middle of Oaxaca, from about 500 B.C., the Zapotec oversaw a vast trade network and built massive pyramids. They remained the dominant force in Oaxaca until about 800 A.D.

- As the Maya and the Zapotec flourished, a large and important city in central Mexico grew, as well: Teotihuacan. Teotihuacan

was large enough to hold a population of 150,000 people. By about the year 300, the people of Teotihuacan started sweeping across Mesoamerica. Teotihuacan's ideas dominated for centuries, especially in the Maya world. Warfare became much more common among Maya cities.

- By about 600, city populations across Mesoamerica exploded in size. But when that happened, resources became strained—and then everything fell apart. Teotihuacan was destroyed by fire in about 650. Then, suddenly, all the Maya city-states fell. The Classic period was over by the year 900.

Terminal Classic and Post-Classic Periods

- The next time period, the Terminal Classic, was brief. A better term might be *Transitional Classic* because Classic cultures were changing and interacting with each other in new and significant ways.

- The Maya began migrating out of the Peten jungles and north into the Yucatan Peninsula. Back in Central Mexico, there was a huge power vacuum when Teotihuacan fell. Then, the Aztec migrated into the Valley of Mexico from the north in about 1250. The Aztec grew in power year by year, and eventually, they built a capital city: Tenochtitlan.

- By 1427, operating from that capital, the Aztec took over the entire valley and came to dominate most of Mesoamerica. Each generation of Aztec expanded the area of control. The Aztec were rich and powerful, and they ruled by force. Many of the dominated cultures were resentful of the Aztec, and when the Spanish arrived, those same cultures helped them defeat the Aztec. In 1521, the Aztec capital fell to the Europeans.

Unifying Cultural Aspects

- In the following lectures, we will discuss the many cultures that developed in Mesoamerica. Although there are distinctive cultural groups, there are a few themes that pervade all times, peoples, and

places in Mesoamerica that we can use to define Mesoamerica as a unified cultural region.

- One of the most important connections was the sacred 260-day calendar, which was created as early as 600 B.C., then spread throughout Mesoamerica. The calendar was the heart of daily life and was a symbol of the cyclical nature of time.

- Another important practice in Mesoamerica was sacrifice—both human and animal—which was done to honor the gods. There was also the practice of auto-sacrifice or self-sacrifice, which in some ways, was the most important. In Maya society, Maya kings engaged in bloodletting, which established a personal connection to the gods.

- Another significant unifying aspect was the city-state model of governance. Each major city in Mesoamerica was independent; there was no united empire, only alliances. This was the case during the Maya Age of Kings; even during the Aztec-dominated period, there was constant negotiation between independent city-states.

- Underlying that city-state model were council forms of governance. Even kings had to answer to councils. This structure was reflected in the pantheon of deities. There were many local gods, but no head god. Each city focused on a different patron deity, and the terrestrial space of the cities reflected celestial space.

Suggested Reading

Schele and Friedel, *A Forest of Kings*.

Stephens, *Incidents of Travel in Central America*.

Questions to Consider

1. What made Mesoamerica the right place for one of the world's cradles of civilization? Why not Kansas or Costa Rica?

2. Why have world history books virtually ignored Mesoamerica, despite the decades of research we now have regarding the ancient past of this part of the world?

Olmec Civilization Emerges

Lecture 2

Olmec civilization is today recognized as one of six cradles of early civilization; the other five are ancient Egypt, the Sumerian civilization in modern Iraq, the Shang cultures of China, the Indus Valley civilization of India, and the northern coastal cultures of Peru. Of those six, the Olmec civilization is the youngest and, in some ways, the least understood. In this lecture, we will explore how the Olmec culture was discovered and dated and describe the excavations of its three main centers of activity: San Lorenzo, La Venta, and Tres Zapotes.

The Colossal Head of Hueyapan

- Sometime in the late 1850s, a farmer in Veracruz came across an odd dome-shaped rock in the ground. When he dug it out, it turned out to be a massive stone head. The face looked African, and the myth of an African contact in the Americas took hold. In truth, however, the farmer had not found evidence of colonization but, rather, the very first artifact of Mesoamerica's mother culture, the Olmec. The head he found was called the Colossal Head of Hueyapan.

© Quasarphoto/iStock/Thinkstock.

Among the first artifacts of the Olmec culture to be found were the now-famous colossal stone heads.

- Archaeologists have discovered thousands of Olmec sites, all in the lowlands of a region called the Isthmus of Tehuantepec. But the Olmec colossal heads have been found in only three main Olmec centers: San Lorenzo, La Venta, and Tres Zapotes. Each represents a different period in Olmec history.

- San Lorenzo flourished from about 1700 B.C. to 1000 B.C. La Venta emerged next, from about 1000 B.C. to 400 B.C. Tres Zapotes, which represents the end of Olmec civilization, is called the Epi-Olmec and lasted from 300 B.C. to about 300 A.D.

Uncovering the Olmec Mystery

- Although the Hueyapan head was still an enigma, collections of small objects carved in stone and ceramic vessels were found around the Isthmus of Tehuantepec. They came to be called Olmec because the Aztec referred to that area as the Olman, meaning the "land of rubber." However, the Olman people had nothing to do with the Olmec.

- Frans Blom and Oliver La Farge were the first archaeologists to investigate the region. Surveying the area in the 1920s for Tulane University, they visited the Hueyapan head. But then they were led by local farmers to La Venta, where they found eight more giant monuments, one of them another colossal head.

- The age of the Olmec culture remained unknown and was hotly debated. Archaeologists in the Maya region believed that the Maya were the oldest culture. Carbon-14 dating techniques would not be employed in archaeology until the 1950s. Archaeologist Matthew Stirling believed that the Olmec were older than the Maya, basing his theories on discoveries of Olmec objects in very deep levels of excavations in Central Mexico.

- In the early 1940s, Stirling and his new partner Philip Drucker excavated at La Venta, exposing many new monuments and a massive 30-meter-tall pyramid. But then in 1945, Stirling moved into the valleys of the Coatzacoalcos River, where more Olmec sites were rumored. The region turned out to be the most densely populated and oldest part of the Olman, with San Lorenzo at its heart.

San Lorenzo

- Shortly into his survey of San Lorenzo, Stirling found another colossal head, dubbing it "El Rey," or "The King." Stirling had

found one colossal stone head, but San Lorenzo actually had at least 10, spread north to south along the long axis of the site. In the 1960s, Michael Coe of Yale had the idea to use a magnetometer to find buried monuments. More than 50 new monuments were found during his projects. With the help of carbon-14 dating, Coe also proved that San Lorenzo began in 1700 B.C. and reached its peak in 1200 B.C.

- In the 1990s, excavations by Ann Cyphers uncovered the Red Palace, whose floor was red gravel and whose walls were plastered with a kind of red mud. Cyphers also found a basalt drainage structure leading away from the palace, part of an aqueduct system that was at least 170 meters in length.

- Coe had found many broken monuments around the palace, and he concluded that they were signs of an attack or an internal rebellion. But Cyphers suggested an alternative hypothesis, that this was a carving workshop with large sculptures being reworked into new ones. If she is correct, then one thing we can say about the Olmec is that their artisans were of an elite class—which was also the case with the later Maya culture.

- Another significant contribution Cyphers and her team made was a survey of the wider Coatzacoalcos River basin. There, they found hundreds of small villages dating to about the time of San Lorenzo. By 1200 B.C., the entire region was teeming with Olmec civilization.

- San Lorenzo remained a living city for almost 1,000 years. But the power of San Lorenzo began to wane around 1000 B.C., and a new major Olmec capital was on the rise in a swampy lowland to the east. It became the greatest, most influential city that the Olmec had ever built: La Venta.

La Venta

- La Venta was built on an island of sorts—a patch of higher ground in an otherwise swampy area amid crisscrossing rivers. Like San

Lorenzo, its location was ideal for fishing, farming, and transporting goods by boat. It was only about 15 kilometers away from the Gulf of Mexico; thus, it seems that the Olmec were involved in collecting ocean resources, and they likely had ocean trade routes, as well.

- La Venta's ceremonial center was clearly modeled after San Lorenzo's, with a north-south axis, plazas, and megalithic monuments. At the north end of the ceremonial site were three colossal heads. The fourth colossal head at La Venta was found in the center of the city, under the shadow of a structure that San Lorenzo lacked: a great pyramid.

- La Venta's Great Pyramid stood 30 meters tall, a solid mass containing more than 100,000 cubic meters of dirt. Built in 1000 B.C., it was maintained until about 400 B.C., when the city was abandoned. At that time, it was the largest building in all of Mesoamerica. Underneath the plazas and the complexes surrounding the pyramid, a number of illuminating discoveries were made: tombs, ceremonial caches, and buried monuments.

- Five tombs were found under Complex A. Bodies in the tomb were richly appointed with jade objects and covered with cinnabar—both materials imported from far away, perhaps Belize or Guatemala. Tomb A was built out of large basalt columns, which had to have been transported from at least 70 kilometers away, where the nearest volcanic deposits were found.

- The other tombs were stone boxes, the most elaborate being Tomb B. It was carved from local sandstone, with an image of the Olmec Dragon. Jade objects were stacked on one another and buried underneath the plaza. There were five of these offerings, and the largest of them had 28 layers of mosaics, each one showing a different kind of interpretation of the Olmec Dragon face. All in all, thousands of tons of green stone imported from Guatemala was buried under the plazas at La Venta.

- Like San Lorenzo, La Venta was surrounded by a wide area of smaller villages. Also like San Lorenzo, La Venta ultimately faded away. Its peak was probably in 600 B.C., and by 400 B.C., it was abandoned.

Tres Zapotes

- The culture known as the Olmec ended when La Venta fell. But the traditions that the Olmec began continued and flourished into something new: the Epi-Olmec culture. Though the term *epi* implies a lesser version, in some ways, the new civilization surpassed its predecessors, especially in the invention of writing.

- The site that has come to typify the Epi-Olmec is Tres Zapotes, located on the western slope of the Tuxtla Mountains in Veracruz. Tres Zapotes was the site of the first Olmec discovery back in the 1850s: the Hueyapan head. But as it turns out, Tres Zapotes was an Epi-Olmec site built over the ruins of an earlier Olmec city.

- Ceramics found in the lower layers date the city from 1200 B.C. to 1000 B.C., making it contemporary with San Lorenzo. The ash layer suggests that a volcanic eruption likely forced the original Olmec inhabitants out. The next inhabitants of Tres Zapotes showed up about 300 B.C.

Interpreting the Hieroglyphs

- Tres Zapotes' structures are not as impressive as those of La Venta; however, it is not the size or scale of Tres Zapotes that makes it significant but, rather, the hieroglyphic texts found on its stone monuments, especially Stela C. Matthew Stirling, famous for his good luck in finding monuments, actually discovered Stela C when he was walking along and stubbed his toe on it. The front side of Stela C depicted a ruler sitting on an Olmec-style throne; its back side showed a hieroglyphic text with a readable date. Matthew's wife, Marion Stirling, reconstructed the date as September 2, 32 B.C.

- Tres Zapotes' Stela C put another object in a new perspective: the Tuxtla Statuette. The statuette also held a hieroglyphic inscription, and in that inscription was another date in the same style as Stela C: 162 A.D.

- Then, in the 1980s, another stela was found in that same area—one that turned the field of hieroglyphic studies on its head. It was called La Mojarra Stela, and it contained 535 glyphs. Two dates were found on the monument: 143 A.D. and 157 A.D.

- The growing number of similar scripts in that area have collectively been called Isthmian Scripts. Although these early scripts predated most Maya scripts, they displayed dates in the same format as the Maya, using a system called the Long Count. In fact, the Epi-Olmec culture may have invented the concepts of Mesoamerican writing and calendrics.

Suggested Reading

Coe and Koontz, *Mexico: From the Olmecs to the Aztecs*.

Diehl, *The Olmecs*.

Questions to Consider

1. If sedentary farming life had been going on for thousands of years, why did the Olmec change things?

2. If the Olmec could make such wonderful stone monuments, why didn't they build temples in stone, too?

3. Why did the Olmec bother importing jade, basalt, and other stone types from such great distances?

Olmec Art as the Mother Culture

Lecture 3

Olmec art has long been regarded as mysterious and inscrutable, originating in early antiquity, and beautifully executed. In fact, a careful study of Olmec art strengthens the concept that the Olmec represent the mother culture of all Mesoamerican cultures. Olmec art exhibits many of the elements we know are fundamental to later religions and cosmology in Mesoamerica: shamanic transformation, twins and dwarfs as magical beings, caves as the entrance to the otherworld, Sustenance Mountain as the origin place of corn, and ancestor worship, as evidenced in burial practices.

Olmec Colossal Heads

- The famed colossal heads are the most iconic form of Olmec art. There are a total of 17 heads known from the Olmec heartland, mainly from three sites: San Lorenzo, La Venta, and Tres Zapotes. An exception is the very largest head, which was found unfinished at La Cobata. The La Cobata head weighs an incredible 40 tons. Most of the heads weigh between 10 and 20 tons, but even the smallest head, San Lorenzo Head 4, weighs 6 tons.

- Although each head is unique, they all share certain elements: They are male, wear a helmet-like headdress, and have flattened noses and full lips. The faces are quite realistic and almost certainly depict actual people, not just generic men. The prevailing opinion among archaeologists is that the colossal heads represent Olmec rulers. For example, stone depictions of rulers are the norm in classic Maya civilization, as accompanying hieroglyphic texts have made very clear.

- In an amusing book, a fiction author suggests that the colossal heads are representations of an NFL football team that traveled back in time. The notion that the heads depict rulers dressed as

ballplayers may not be far off, however. Olmec ball courts have been found, and Olmec rubber balls have been discovered dating back to 1600 B.C.

- The colossal heads at San Lorenzo and La Venta were found at key points along the north-south axes of the sites, most likely part of some sort of roadway for processions through the sites. One head from San Lorenzo has the remains of red paint and stucco, suggesting that the heads may have originally been decorated.

- Perhaps the most extraordinary aspect of these colossal heads is that many scholars believe they came from the slopes of the Tuxtla Mountains, transported as far away as 90 kilometers. How they were moved is still a mystery. One potential clue is that 14 out of the 17 heads have a flat back side—perhaps to aid in transport.

Recurring Thematic Elements

- However, another theory of the flat sides is that the Olmec heads were recarved from massive monuments. These monuments, thought to be altars, were flat-topped, rectangular stones of basalt, with carvings on the front and sides. The largest, La Venta Altar 4, weighs 33 tons. There are a total of 14 of these altars known, most from San Lorenzo or La Venta. They stand at the bases of large earthen mounds.

- Colossal heads, although impressive, do not really give us much insight into the Olmec cosmology, but the altars present us all sorts of illuminating clues. An altar from San Lorenzo depicts a pair of identical dwarfs holding a tabletop over their heads. This brings up two important mythological and religious concepts: dwarfs and twins.
    - Dwarfs in Native American symbolism are universally believed to be touched by God. From Canada to Chile, ethnographies in native art depict dwarfs in shamanic rituals. In classic Maya art, dwarfs are displayed in the courts of rulers. This significant Mesoamerican element can be seen earliest among the Olmec.

- Twins represent another fundamental element of Native American religions. They appear in virtually every creation story in the Americas, most notably in the Maya *Popol Vuh*, in which a set of heroic twin brothers saves the world from the Lords of Death. Important Olmec monuments have been found depicting twins, and many believe that they are the precursors to the Maya hero twins or part of a core Maya creation story mythology.

- A theme also found prominently displayed on Olmec altars is the emergence of people from caves. Caves symbolize an entrance into the underworld, the place where the dead and the supernatural are found. Shamans go there to receive wisdom.
  - La Venta's Altar 4 has an emerging figure who holds a rope in his hands. That rope wraps around the sides of the monument to connect to other seated figures.

  - This has been interpreted as another fundamental element of religion—the tying of the living to the spirits of their deceased ancestors.

Shamanism and Were-Jaguar Figures

- Another significant recurring theme in Olmec art is the were-jaguar (a person transforming into a jaguar). On La Venta Altar 5 is some of the most intriguing and potentially enlightening art at the site. Four adults hold young children in protective postures. The children have jaguar-transformed faces and

© Madman2001/Wikimedia Commons/CC BY-SA 3.0.

Most of the pieces depicting adult transformation figures are small; some have fangs and claws, while others are more subtle, depicting simple downturned mouths or slanted eyes.

odd clefts in the top of their heads. On the front side of the altar, a figure emerges from a cave—this time, holding a baby with the face of a jaguar.

- Scholars in the 1980s began to consider these transformation images in the wider context of Mesoamerican and New World religions. In that light, we can see transformation into jaguars or other animals as one of the core elements of shamanism.

- Anthropologist Peter Furst, looking specifically at Amazonian examples, was the first to suggest that the Olmec were depicting people in shamanic trance. Shamanism and the idea that the Olmec, like the other cultures that came after them, are interacting with the otherworld are highly productive tools in the interpretation of this art.

Influence on Maya Art

- Jaguar transformation images are not limited to infants and toddlers; there are many pieces with adults in the process of transformation. The notion of not only a shaman priest but also a ruler with shamanic power transforming into a jaguar is something we can find a strong correlate for in late Maya society.

- By the time we have the benefit of hieroglyphs that explicitly detail what the rulers are doing, we see a concept known as *animal spirits*. The Maya call it their "way." A hieroglyph that shows a half-human, half-jaguar face is a symbol that means "way," or an animal transformation spirit.

- Shamanism was present in later Mesoamerican cultures, and we can backward-project its presence among the Olmec. If we do that, we can also see core elements of later religions in Olmec art. The picture is still not entirely clear, but certain odd elements in Olmec art have been explained by examining later creation stories.

- The presence of twins has been mentioned. Another element is the odd cleft in the head of a were-jaguar figurine. In Central Mexican and Maya mythology, there's a place called Sustenance Mountain.

It has a ball court on the very top of it, which looks like a cleft from the side. That's the place where water originally sprang from to irrigate the first cornfields.

- For the Aztecs, the god Quetzalcoatl brought back maize, or corn, from Sustenance Mountain. The Maya depicted Quetzalcoatl as a monster with a cleft at the top of its head. For the Olmec, the were-jaguars possess the cleft head.

Olmec Symbolism

- There's a short list of Olmec symbols that are found primarily on small, portable objects, such as jade figurines and ceramics. Archaeologists use these symbols as the clues to track the diffusion of Olmec ideas and images and, perhaps, to uncover trade networks and political alliances. The three primary symbols are depictions of downturned lips, flaming eyebrows, and crosshatches.

- Downturned lips are featured on the mouths of the were-jaguar transformers. The flaming eyebrow is on the brow of what has been called the Olmec Dragon. More likely, it's yet another form of the later, better-understood deity, Quetzalcoatl—also called the "Feathered Serpent." The flaming eyebrow sometimes appears on the were-jaguars.

- Crosshatches are a ubiquitous Olmec symbol that will appeal to an archaeoastronomer. The crosshatch, with its overlapping *x* pattern, is found abstracted into ceramics and jades and appears on statues of exalted elites. In later Maya hieroglyphics, this symbol is clearly connected to astronomy; it consistently appears with other symbols, such those of the sun, moon, Venus, Mars, and the night sky. Some suggest it symbolizes the ecliptic path of the sun as it crosses the Milky Way; others believe it means the conjunction of two celestial paths.

Old World Influences

- Some archaeologists have suggested that the Olmec were influenced from contact with the Old World, while others consider such

theories heresy. However, some pieces of Olmec art used to support the Old World contact theory are difficult to explain otherwise.

- Some theorize that there was a Mediterranean influence. The Phoenicians from the area of modern-day Lebanon were the best sailors in the world between 1500 B.C. and 300 B.C.; they circumnavigated Africa by 600 B.C. and are credited with the first extensive use of an alphabet. Moreover, they were constantly seeking new items to add to their trade goods.

- Venetian ships were manned by mixed crews of bearded Arabs and Nubian warriors. La Venta's Monument 16 shows a bearded man wearing a turban and curled shoes. There are four glyphs on the monument—the earliest known in all of Mesoamerica. A footprint glyph stands alone, which is a symbol that meant "traveler" in later Mesoamerican writing.

- La Venta Monument 63 depicts a man with a turban and a full, thick beard. Mesoamericans can barely grow a beard at all, much less a thick one. Perhaps the most bizarre Olmec piece was recorded at Tres Zapotes during the 1940 expedition. Rendered in clay, it's a bust of a man with a pointy goatee, a turban, and high cheekbones. The face does not appear Mesoamerican at all.

Suggested Reading

Coe and Koontz, *Mexico: From the Olmecs to the Aztecs*.

Diehld, *The Olmecs*.

Miller, *The Art of Mesoamerica*.

Questions to Consider

1. Why did the Olmec consistently portray themselves as bald?

2. What inspired the Olmec to create such amazing and massive sculptures?

3. Is there any reason to believe that the Olmec were influenced by contact from the early cultures of the Mediterranean?

Olmec Contemporaries

Lecture 4

Olmec culture and civilization had a powerful influence on contemporaneous cultures. The Olmec message traveled far and wide, and a set of ideas and images traveled across Mesoamerica and created a commonality that had never been experienced before. Before the Olmec faded away, their cultural reach—as demonstrated by their art, architecture, and artifacts—extended as far as El Salvador, Honduras, and even into Costa Rica. However, as the Olmec emerged as the height of cultural achievement, they were in contact with a number of other regions and cultures, which in turn had an impact and influence on them.

Emergence of Sociopolitical Hierarchies

- About 1800 B.C., a region encompassing the Valley of Mexico and the states of Morelos, Puebla, and Guerrero was covered with small farming villages. The inhabitants lived in simple dwellings, planted corn, and used a type of pottery called *red on buff*. These people in western Mexico buried their dead underneath their houses. This burial pattern became a core element of Mesoamerican traditions, one linked to ancestor worship and the conception of what happens to the soul after death.

- Because we have no burials from San Lorenzo, it is difficult to say if the burial of dead underneath the home was an Olmec influence. However, at La Venta, after 1000 B.C., we do see many burials with offerings. Based on the archaeological evidence, that tradition began not in the Olmec heartland but in western Mexico.

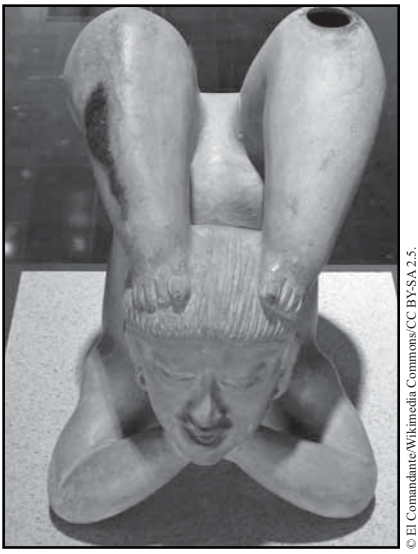
- San Lorenzo also started out about 1700 B.C. as a small village of farmers. But by 1200 B.C., it had grown to several thousand people, dwarfing any other settlement in Mesoamerica at the time. Interestingly, things changed in the Basin of Mexico, where Mexico City now stands, at about the same time. The Tlatilco

culture emerged, with the region's first evidence of sociopolitical hierarchies and differentiation.

Tlatilco and Tlapacoya

- In the Basin of Mexico, around Lake Texcoco, two villages grew larger than the rest and became capitals of sorts: Tlatilco in the west and Tlapacoya in the east. Tlapacoya was settled on the side of a volcanic island. Although it was destroyed, salvage operations in the 1990s concluded that it was densely populated, contained large earthen mounds, and created Olmec-style pottery.

- Tlatilco was also destroyed. But artist Miguel Covarrubias, who noticed that it was being looted in the 1930s by bricklayers looking for clay sources, organized the first investigations there in the 1940s. It was his discovery of Olmec artifacts in the low stratigraphic levels that were the first hints that the Olmec was an ancient civilization.



© El Comandante/Wikimedia Commons/CC BY-SA 2.5.

Perhaps the most beautiful piece found at Tlatilco is called the Acrobat; it is a ceramic vessel, depicting a male touching the back of his head with his feet.

- Hundreds of burials were found at Tlatilco that indicated a social hierarchy that was not seen in earlier villages. Some bodies showed deformed skulls and filed-down teeth—both practices known from later Maya contexts as the markings of elite status. The heads of infants were intentionally deformed, reshaped to come to a point at the top.

- Hundreds of vessels with Olmec motifs were found in the burials—motifs such as flaming eyebrows, cleft heads, crosshatching, and the Olmec Dragon face. Clearly, Tlatilco was in contact with San Lorenzo. Just as San Lorenzo faded away during the 1000–900 B.C. period, so did Tlatilco culture in western Mexico.

Teopantecuanitlan

- In western Mexico, two sites of great importance in the states of Guerrero and Morelos rose up, this time with considerably more Olmec influence.

- In Guerrero, we find the significant site of Teopantecuanitlan. Teopantecuanitlan started up as Tlatilco culture rose, about 1200 B.C., but it did not begin to grow until after 1000 B.C. Its central precinct had a sunken court with four large sculptures that depicted Olmec-style were-jaguars, complete with slanted eyes and downturned mouths. Scholar Kent Reilly has suggested that the sculptures represented mountains at the four corners of the Mesoamerican universe.

- In the center of the sunken court stand two rectangular mounds next to each other, likely a symbolic underworld ball court. If this is correct, this is another link to what would become the Maya creation story. Its interpretation as a ball court is strengthened by the presence of a larger Teopantecuanitlan ball court that is about 1 kilometer to the northeast of this sunken court. Ball courts and underworld symbolism are two central elements in all later Mesoamerican religions. And at this point in early history, we see them more clearly here than in the Olman.

- Another element of Teopantecuanitlan's sunken court were troughs employed to drain off rainwater from the hills above. Excavations found that they could be also be used capture water inside the court. The later Maya city of Copan, in Honduras, had a sunken court with the same ball court imagery and the same kinds of drains.

- The Maya underworld was thought to be the location of a primordial sea, where the Hero Twins played a ball game against the Lords of Death. If we are seeing early evidence of this creation story at Teopantecuanitlan, it is not located in the Olmec heartland; instead, it is in western Mexico—perhaps influencing the Olmec.

Chalcatzingo

- Another major post–1000 B.C. site in western Mexico is Chalcatzingo, in Morelos. Between 700 and 500 B.C., its artifacts, sculptures, and architecture all pointed to intensive contact with La Venta and trade networks all the way down into Guatemala's Pacific coast.

- The first stone monuments in western Mexico at this time were at Chalcatzingo. At least 30 of them were distributed across the terraces and the hillsides above. It had a sunken court like Teopantecuanitlan, but in its center was a throne with Olmec Dragon eyes. A platform mound in the center of the terraces holds Monument 9, whose images conjure both Olmec symbols of caves and the significance of the four directions.

- Starting with its own Tlatilco culture, western Mexico became increasingly Olmec as La Venta came into power. And, again, just as La Venta was abandoned at 400 B.C., so were Teopantecuanitlan and Chalcatzingo.

San Jose Mogote and the Zapotec

- While San Lorenzo grew, a culture in the Valley of Oaxaca was growing right alongside: the Zapotec. Between 1400 and 1200 B.C., there were about 20 Zapotec villages in the valley. Just after 1200 B.C., one village in the northern arm of the valley grew larger than the rest. San Jose Mogote emerged as the valley's first socially stratified community.

- When La Venta dominated back in the Olman, Olmec influence intensified at San Jose Mogote. Its inhabitants built large public architecture made of stone. Treasures from San Jose Mogote

include a 16-inch jade statue of an Olmec man, covered with red cinnabar that has been found in similar statues at La Venta. There are also ceramic vessels with Olmec symbols just like the ones found at Tlatilco.

- Monument 3 is one of the single most significant artifacts in all of Mexico. It shows a man naked with his entrails coming out of his stomach. His nudity and obvious wound marks indicate that he is a captive: This is the oldest scene of overt violence against another ever found in Mesoamerica.

- Even more important, there is a glyph between the figure's feet that reads, "1 Earthquake." The Zapotec named everyone for the day he or she was born. Thus, Monument 3 was carved around 600 B.C., probably earlier. Aside from Monument 16 at La Venta, this is the first hieroglyphic known in Mesoamerica. What's more, it is a calendar glyph, the very first evidence that the sacred calendar of 260 days had been created.

- Inhabitants of the Epi-Olmec site of Tres Zapotes inscribed calendar glyphs onto their monuments but not until 32 B.C.—a full 600 years later. Thus, while the Zapotec at San Jose Mogote were clearly influenced by the Olmec, it seems quite plausible that they created the first calendar and shared it with the Mesoamerican titular mother culture.

Soconusco

- Of all the regions with which the Olmec made contact, Soconusco, the future heartland of Maya civilization, may have had the most influence on the Olmec. The more research that goes into Soconusco, the more that archaeologists rethink the Olmec as the mother culture model in favor of a theory of cultural co-evolution.

- Soconusco is a strip of land—rich and diverse in resources—between the Sierra Madres and the Pacific Ocean, from Chiapas down through the coast of western Guatemala. Before San Lorenzo was even a village, Soconusco was populated by thousands of people.

- Archaeologist John Clark named the culture the Mokaya, which means "corn people" in Mixe-Zoquean, the language that many believe was spoken by both the Mokaya and the Olmec. By at least 1900 B.C., the Mokaya were the first Mesoamerican culture to be living in permanent villages. They were also the first people to make pottery in Mesoamerica, probably by 1700 B.C.

- On the Chiapas side of Soconusco, one village grew larger than the rest: Paso de la Amada. No later than 1550 B.C., the inhabitants of Paso de la Amada built a huge ball court, 80 meters in length. We know San Lorenzo had ball courts by 1200 B.C., but the Paso de la Amada court is the oldest known evidence of a ball court—not just in Mesoamerica but anywhere on our planet.

Who Influenced Whom?

- There was an Olmec influence hiatus about 1000 B.C., followed by an even more intense Olmec presence when La Venta came to power. Paso de la Amada was abandoned about the same time, and the new Soconusco power centers embraced Olmec iconography. It is likely that they adopted Olmec ideology along with it—and took it to a whole new level.

- A site named La Blanca in Guatemala includes a 25-meter earthen pyramid from just before 800 B.C. The only one like it in all of Mesoamerica was at La Venta. Excavations at La Blanca have yielded thousands of Olmec-style vessels and pieces of jadeite jewelry. A basalt statue said to come from La Blanca is clearly an Olmec-style jaguar transformer.

- Another statue from nearby Ojo de Agua depicts an Olmec ruler seated on a throne, with downturned mouth, inside a cave with a flaming eyebrow and a cleft above. All these artifacts clearly indicate heavy influence from La Venta. What's more, La Blanca's abandonment near 500 B.C. also fits neatly into La Venta's decline.

- Who influenced whom? Early Maya culture emanating from the Soconusco had a significant impact on the development of Olmec

civilization. It is no longer clear whether the Olmec were indeed Mesoamerica's mother culture.

Suggested Reading

Coe and Koontz, *Mexico: From the Olmecs to the Aztecs*.

Diehl, *The Olmecs*.

Miller, *The Art of Mesoamerica*.

Questions to Consider

1. Is it more logical to look at human development as a set of ideas spreading out from an epicenter or an interaction sphere?

2. How did the Soconusco start with such advanced pottery technics?

3. Why did Tlatilco make so many female figurines?

Mesoamerican Plants, Cuisine, and Medicine

Lecture 5

Harnessing the power of plants and transforming them into a wide variety of foods, trade goods, objects, and medicines was vital in Mesoamerica. In this lecture, we'll discuss the botany of Mesoamerica and how it benefited not only its ancient people but also, eventually, the entire world. Here, we'll explore the history of agriculture, intensive agriculture techniques, and the most prominent crops cultivated in Mesoamerica, such as corn, chocolate, chili peppers, rubber, and chicle.

Domestication of Corn

- Three main crop staples covered the globe in ancient times: wheat in Mesopotamia, rice in Asia, and corn—*ixim* in the Maya language—in Mesoamerica. Today, corn is the most common crop planted on the planet. Aside from water, access to a steady food supply was essential to maintaining a large population. What's more, adopting agriculture allows a population to relinquish nomadism. Thus, with intensive agriculture our first ancient civilizations arose.

- Corn was central to Maya life; the Maya worshipped a corn god, Yum Kaax. The earliest corn imagery we have is actually Olmec, from San Lorenzo, depicted on small jade celts from about 1500 B.C. On those celts, we see corn sprouting from people's heads.

- The best studies of when corn was first domesticated come from American agricultural archaeologist Richard MacNeish. In the 1960s, he found corn kernels in a cave in the Tehuacan Valley that dated back to about 3600 B.C. In the same general area, he discovered human-altered corn cobs that were dated to 4200 B.C. These corn cobs were teosinte, which some believe is corn's wild ancestor.

- A 2009 study proposed that corn was cultivated back in 6700 B.C., and genetic studies on what's called Balsas teosinte pointed to

perhaps even a 7000 B.C. origin. These studies show corn residue on tools found in a valley near the Balsas River is a place called Xihuatoxtla shelter. Carbon 14 dated the residue to about 6700 B.C.

- MacNeish also noted early diffusion of corn plants. Corn was found in Panama in 5500 B.C.; by 4700 B.C., it was in Peru. Heading north, at about 2000 B.C., it was in the American Southwest, and about 1000 A.D. was in the Mississippi Valley.

The "Three Sisters"

- Corn took thousands of years to domesticate. The Olmec began cultivating the first crops on a wide scale, but these were tiny corn cobs, not the larger corn that we see today. Above all other domesticated plants, corn changed Mesoamerica. It, along with beans and squash, constituted a dietary trio that allowed large populations to feed themselves while living in the same place and to increase their density and social complexity.

- Even before the practice of intensive agriculture began, Mesoamerica developed the inspired technique of planting three crops together: corn, beans, and squash. This concept spread everywhere that corn spread—even as far as the Iroquois in Canada, who coined the name "three sisters" to describe the technique.

- The three plants do more than simply grow together; they help each other to grow. Squash spreads out on the ground, and its wide leaves keep the harsh sun from drying out the roots. The beans grow up, spiraling up the stalk of the corn. Beans put nitrates into the soil. Together with lean turkey and deer meat, ancient Mesoamericans had one of the healthiest diets on the planet.

Intensive Agriculture

- Feeding larger populations requires intensive agriculture; and the Mesoamericans came up with several interesting innovations. Raised fields, which the Aztec called *chinampas*, consisted of rows in lowland areas that were prone to seasonal flooding. *Chinampas* are first seen in the Olmec lowlands as early as 1700 B.C.

- Another important technique used in areas above seasonal flooding and drier regions was terracing, which prevents soil erosion in a natural hillside. The front was faced with stone to stabilize the terrace, and gravel underneath the topsoil allowed water to drain. Irrigation ditches were constructed to water the terraces.

- Another method of intensifying agriculture is called *slash and burn*, or *Swidden agriculture*. Basically, farmers burn down a forest, which is much easier than cutting down trees and opening up farmland. What's more, the tree ash puts nitrates back into the soil. Slash and burn may even have pre-farming roots. Hunters and gatherers may have burned forests to flush out animals; then, they learned that those same areas were very rich and easy to farm.

- There were many problems with slash and burn, however, such as deforestation and loss of animal habitat. Another serious repercussion was that the technique changes rainfall patterns, which created more problems with crops.

Chocolate and Chili Peppers

- Although corn was undoubtedly the most important foodstuff in Mesoamerica, many other foods originated there—foods the Western world treasures. The hard truth is that Europeans' food options and diet were very poor before they discovered the New World. Besides beans, corn, and squash, Mesoamerica gave the rest of the world tomatoes, potatoes (originally from South America), chili peppers, peanuts, cashews, sunflower seeds, and vanilla. Fruits that came from the New World included pineapples, mangoes, papayas, cranberries, strawberries, and avocados.

- Few plants on the planet have given so much joy to so many as chocolate has. Today, it's grown in many tropical regions, but its origins are actually in the Olmec heartland, in Tabasco and part of Veracruz. That is where we see the very first cacao groves.

- Maya elites loved chocolate and prepared it in a frothy drink. The Maya liked it bitter, and mixed chilies and allspice with it. The Aztec

loved chocolate, as well. When they asked cultures from the south of them to pay them tribute, often it was chocolate they wanted. In fact, the word *chocolate* comes from the Nahuatl, or Aztec, language: *chocolatl*. The Maya and Aztec both used chocolate in their markets as a kind of currency.

- Chili peppers constituted an important foodstuff from Mesoamerica; these plants were domesticated sometime around 4000 B.C. Their wild ancestors have been eaten since at least 7500 B.C. All chilies come from Mexico, even the Asian ones. *Chili* is a Nahuatl word. When Columbus tried to compare what chilies tasted like, the only food he could think of was the Asian peppercorn. That's where we got the name chili pepper.

Rubber

- Clearly, Mesoamericans had a wonderfully rich diet. But plants provided more than just food. A whole host of other plants were used to create tools, build houses, and make clothing—even art.

- The rubber tree originated in the Maya rain forest, and spread to other areas, such as the Caribbean, and all the way down into the Amazon. Rubber was another major tribute item for the Aztec. Mesoamerica's favorite use of rubber was making rubber balls to play ball games. Olmec balls were found in the El Manati bog from as early as 1600 B.C. Ball courts were everywhere in Mesoamerica, and Maya vessels illustrate ball game scenes. The

© Chalabala/iStock/Thinkstock.

To tap a rubber tree, angled cuts are made along the bark in a spiral pattern down the tree; the sap is then captured in containers, and an additive is introduced to make the sap coagulate into rubber.

trouble is that, like all plant materials, rubber biodegrades. We don't often find it archaeologically.

- Latex found in the sap of rubber trees creates rubber. Because the latex can remain liquid for days, it requires an additive to make it coagulate into rubber. For example, in 1839, Charles Goodyear used sulfur and heat to create vulcanization, a process that made possible the commercial use of rubber. But Olmec balls also contained sulfur. That means that vulcanization in Mesoamerica was achieved 3,400 years before Goodyear figured it out.

- In the 1990s, archaeologist and materials researcher Michael Tarkanian determined that the sulfur came from the vines of the morning glory. A theory is that the Mesoamerican people were experimenting with what they considered magical plants. Morning glory, on top of having sulfur, also happens to be a hallucinogen. They were probably eating it, and it caused them to have visions.

- From the native perspective, they were combining plants and other elements that had magical properties. But from our perspective, we call their experiments science.

Chicle

- Another Mesoamerican tree, similar to the rubber tree, is the chicle tree—where chewing gum comes from. Chewing gum did not originate in Mesoamerica; there was chewing gum, a kind of sap, in Finland in 3000 B.C. Chicle is a superior form of gum, however.

- In the 1860s, Mexico popularized chicle and started exporting it to the United States. Chicleros, the people who harvested the gum out of the chicle trees, searched the rain forest for the product. The chicleros actually discovered many of the ruins that we now know of today. Chicleros sold much of their gum to the Wrigley company starting in 1892—and got very rich.

- The Aztec were importing gum from the Maya when Cortes arrived, but it did not hold the same value to the Spanish. The Europeans

already had gum. The Aztec used it but only children and unmarried women chewed gum; warriors did not. Aztec prostitutes also chewed gum as a sign that they were available in the street.

Medicinal Knowledge

- If there's anything that the modern world searches the rain forest in Mesoamerica to find, it's the indigenous knowledge of medicines. Most of our modern remedies come from ancient plant knowledge. But to understand Mesoamerican medicine, one must begin by understanding the native perception of health.

- To Mesoamericans, and actually all Native American peoples, illness was a spiritual affliction, not a physical one. Using plants helped cure people, but the reason was that those plants had a spirit. *Curanderos* are healers who can speak to the plants, and sometimes plants help them understand what's wrong with people. Westerners see plants and their derivatives as drugs, but *curanderos* see them as spirits with which to interact.

- One of the most fascinating and least understood aspects of Mesoamerican botany is the topic of medicinal plants. Indigenous people know a great deal about medicines. For example, there are ant eggs in the thorns of the bullhorn acacia tree that can act like aspirin. There are leaves that slow bleeding and can actually coagulate the blood.

- A great deal of plant knowledge remains hidden and protected in Mesoamerica. Perhaps as time goes on, and true relationships of respect are built between researchers and indigenous people, more secrets will be shared.

Suggested Reading

Byers, ed., *The Prehistory of the Tehuacan Valley*.

Coe, *America's First Cuisines*.

Questions to Consider

1. Why do you think *curanderos* are resistant to sharing their plant knowledge? Is it about profit or something else?

2. Archaeology can find only nonperishable materials. How different do you think a Maya city looked with all the plant materials they used?

3. Can we view Mesoamerican plant knowledge as science?

Early Highland Maya—Izapa to Kaminaljuyu

Lecture 6

Although the mighty Olmec city of La Venta was abandoned in 400 B.C., the cities it had influenced in the highlands and the Pacific slopes to the south still flourished. Those areas were the origins of Maya civilization. In this lecture, we investigate the early Maya cities and examine the archaeological evidence for the cultural transition from Olmec to Maya.

Takalik Abaj

- Takalik Abaj, a highly significant early Maya city, has been investigated since the 1940s. It is a very large site, with at least 70 temples, two ball courts, and about 350 monuments. It is located only 40 kilometers from the coast, not that far from La Blanca, another site with La Venta connections.

- According to archaeologists, the Middle Preclassic period occurred from approximately 1000 to 400 B.C., basically La Venta's time periods. The Late Preclassic ranged from 400 B.C. to 250 A.D. Takalik Abaj existed in both.

- Its name, given to it by archaeologist Edwin Shook in the 1970s, means "Standing Stones" in K'iche Maya. The name refers to the great quantity of stelae found there. Although stelae were also found in Olmec cities, they were the hallmark of Maya civilization. Some experts even characterize classic Maya civilization as a stela cult and point to Takalik Abaj as the origin of that tradition.

A Missing Link

- Before 400 B.C., Takalik Abaj was clearly influenced by the Olmec. For example, a temple called the Pink Structure was a public building with Olmec-style monuments. As La Venta faded, however, Takalik Abaj buried the Pink Structure inside a Maya-

style temple, called Mound 7, and destroyed the Olmec monuments in front of it.

- When Mound 7 was first excavated, archaeologists discovered a burial dating to about 100–200 A.D. that was clearly Maya. In 2012, excavations of the Pink Structure revealed a much earlier tomb from between 700 to 400 B.C. The body inside was referred to as the Vulture Lord, because he wore a vulture pendant on his chest.

© Simon Burchell/Wikimedia Commons/CC BY-SA 3.0.

Of the 354 known monuments at the site of Takalik Abaj, less than 20 percent were carved during Olmec times.

- Objects found inside the grave included Olmec-style chains, Tlatilco-style female figurines, and Oaxaca pyrite mirrors. But the ceramics found inside were local. The Vulture Lord was clearly not just an Olmec lackey, but he had considerable trade relationships of his own.

- This evidence is significant because it helps define who the rulers of Takalik Abaj were during Olmec times. Mound 7, with its successive rebuilding phases, is a missing link of sorts. Starting out as an Olmec structure, it subsequently became a Maya structure.

Chiapa de Corzo

- Another highland city, Chiapa de Corzo, flourished at the same time as Takalik Abaj, but it was much closer to the Olmec heartland, in the modern state of Chiapas. Perhaps more than any other ruins, its evolution sheds light on the cultural transition from Olmec to Maya.

- Chiapa de Corzo started about 1200 B.C. as a small village and showed an Olmec influence. Then, by about 900–800 B.C., it grew much larger, becoming a regional capital clearly connected to La Venta. The two cities shared pottery and figurine styles. Apparently, they imported their obsidian from the same sources in the Guatemalan highlands.

- But then, between 700 and 500 B.C., during the last centuries of Olmec civilization, Chiapa de Corzo began showing signs of communication with the Maya lowlands and the Peten rain forest, as evidenced by its pottery types.

- In addition, the city's architecture began to change. The city spread out and showed less of the traditional Olmec-style linear arrangement. What's more, builders start using clay adobe instead of packed earth. A significant transformation was the disappearance of Olmec-style objects, and, by 100 B.C., builders started constructing in stone.

- A momentous development was that the inhabitants of Chiapa de Corzo began using hieroglyphs. Stela 2 from Chiapa de Corzo contains the oldest date known in all of Mesoamerica: 36 B.C. What's more, it was carved at a site that was, by then, clearly Maya.

Izapa

- Izapa, a Preclassic city in the highlands, contains our earliest images of Maya gods and the Maya story of creation. Izapa was founded in the heart of Soconusco, along the Izapa River, in a fertile valley with a view of two major volcanoes. To the northwest is Tacana, and to the northeast lies Tajumulco, the tallest volcano in Central America.

- Interestingly, Tajumulco marks the horizon spot for summer solstice sunrise from Izapa. Some theorize that that's perhaps the reason its founders chose that location, to orient themselves to the beginning of the summer solstice.

- Most of Izapa appears to have been built starting as early as 600 B.C. The site is covered in elaborately carved andesite monuments. There are 90 stelae, 61 altars, and 70 other miscellaneous pieces. Strangely, however, there are no hieroglyphs. Instead, we see astonishing scenes of the Maya religion.

- Stela 1 introduces Chaac, the Rain God, walking on water and collecting fish. Chaac was never present in the Olman or in Central Mexico; he's a Maya original. Another key deity who makes his first appearance at Izapa is K'awiil, the God of Royal Magic. He represents a Maya ruler's ability to contact the supernatural world and commune with deceased ancestors.

- On Izapa's monuments we also find strikingly clear images from the *Popol Vuh*, the Maya story of creation. The story centers on a pair of magical twin boys whose heroic deeds make the world safe by defeating the Lords of Xibalba, the gods of the Maya underworld. The twins are clearly depicted on Izapa Stela 2. In addition, two other stelae from Izapa contain images from the *Popol Vuh*.

- With so many different highlights from the *Popol Vuh* depicted, we are quite sure that we're seeing the Maya creation story already developed in the Late Preclassic.

El Baul

- The eastern edge of the Soconusco is where we would expect to find less influence from the Olman and Central Mexico on the emerging Maya civilization. But what we find in the Preclassic site of El Baul is something altogether unique—and quite surprising.

- The site had a long history leading into the Classic period, but it had a Preclassic beginning. In the middle of sugar cane fields stands a platform of Maya construction; however, the monuments on top of that mound are like nothing else in the region. On top of the mound is a massive stone head, partially buried.

- Although the head is not an Olmec colossal head, it does seem to have been inspired by Olmec versions. Right in front of the head is yet another enigmatic sculpture—a fallen stela depicting a man flanked by columns of circular hieroglyphic cartouches. (A *cartouche* is the frame around a glyph.)

- But the Maya did not frame their glyphs in circular cartouches; they used square cartouches. Only the Zapotec, in western Oaxaca, used circular cartouches during Preclassic times. What's more, the top glyph on that monument is a deer head, a Zapotec day sign. This is a Zapotec-inspired monument.

- A stela found in the area depicts a ball player—but not a Maya-style ball player. This ball player resembles illustrations found in the Valley of Oaxaca, just a few kilometers away from the Zapotec capital of Monte Alban.

Kaminaljuyu

- Underneath what today is Guatemala City lie the ruins of Kaminaljuyu. It was the largest of all the highland Preclassic cities, which flourished from 1200 B.C. all the way into 800 A.D. By 700 B.C., Kaminaljuyu's population was in the thousands. And they were growing corn and cotton on a scale found nowhere else in Mesoamerica.

- Kaminaljuyu was also mining obsidian on a massive scale. All across the city, residential workshops were working obsidian from the nearby El Chayal mine. Most of the obsidian found at La Venta came from that same mine. Now we know where the Olmec were getting their obsidian and probably much of their jade, too; they were probably trading it with the Maya city of Kaminaljuyu.

- El Chayal obsidian has been found all over the Soconusco, down into Honduras. What's more, vast quantities have been found in the Maya lowlands in the northern part of Guatemala. Obsidian was undoubtedly the source of Kaminaljuyu's wealth.

Transitioning from the Preclassic

- Wealth and power often lead to a thirst for more wealth and power. Such seems to have been the case at Kaminaljuyu. The post–500 B.C. power vacuum left by La Venta saw Kaminaljuyu grow even greater.

- Pyramids were built over older buildings to increase their size. Stelae were erected in front to glorify the power of their leaders. But on Kaminaljuyu's monuments we see something that we don't see at contemporary monument sites, such as Takalik Abaj, Izapa, or Chiapa de Corzo: captives.

- On Monument 63, we see three sets of captives, naked and bound, humbling themselves before conquerors on thrones. Their fancy headdresses mark them as leaders—not just ordinary captives. Archaeologically, we can place these monuments to sometime around 400–100 B.C.

- Just before the turn of the millennium, Kaminaljuyu started producing long hieroglyphic texts. By at least 100 B.C., while other places in Mesoamerica were scratching a few symbols and dates into their monuments, Kaminaljuyu was composing entire passages of glyphs.

- Kaminaljuyu was the city that would lead the highland Maya out of the Preclassic and into their Classic fluorescence. Its inhabitants brought kingship, pyramid building, and the practice of dominating their neighbor communities to a new level.

Suggested Reading

Michels, *The Kaminaljuyu Chiefdom*.

Miller, *The Art of Mesoamerica*.

Pool, *Olmec Archaeology and Early Mesoamerica*.

Questions to Consider

1. Why did Izapa choose not to use hieroglyphics when their neighbors were doing so?

2. What was El Baul? Was it a Maya city or some sort of Zapotec outpost?

3. What compelled Kaminaljuyu to start dominating their neighbors and taking captives?

Preclassic Maya Lowlands—El Mirador

Lecture 7

In the heart of the Peten rain forest in northern Guatemala lies what may be the largest Maya city ever built and one of the oldest: El Mirador. It contains thousands of stone structures and causeways the size of modern highways. In the center of the city are two massive pyramid complexes—El Tigre, 55 meters high, and La Danta, at 70 meters high the tallest pyramid in the entire New World. The site's name, El Mirador, means "the lookout." In this lecture, we'll discuss El Mirador's discovery and theories about its age, examine the meaning of its symbolism, explore its massive constructions, and contemplate its ultimate demise.

The Cradle of Maya Civilization

- El Mirador was first discovered in the 1920s, but it was not until 1962 that archaeologist Ian Graham led the first expeditions into the site by mule train and mapped its central precinct. In the late 1970s, archaeologists Bruce Dahlin and Ray Matheny proved, using ceramics and carbon-14 samples, that El Mirador was a Preclassic site.

- The work of archaeologist Richard Hansen demonstrated that El Mirador had origins reaching back to 600 B.C. and that its peak was somewhere between 300 B.C. and 100 A.D. Hansen established the Foundation for Anthropological Research and Environmental Studies (FARES) to protect not only the ruins but also the rain forest around them.

- For years, the massive La Danta pyramid has been one of Hansen's main projects. Excavating at the base of the primary temple on top, Hansen's team discovered large stucco-molded bird masks flanking the staircase.

- Then, in 2009, while unearthing more of La Danta's terraces, Hansen and his team found a stucco facade that they believe shows

the hero twins from the *Popol Vuh*, the Maya story of creation. If their supposition is correct, it is the earliest depiction of the *Popol Vuh* yet found. Hansen calls El Mirador the cradle of Maya civilization.

© Laslovarga/Wikimedia Commons/CC BY-SA 3.0.

One of the signatures of lowland Preclassic sites are giant stucco masks depicting supernatural creatures.

La Danta

- A significant aspect of La Danta, possibly related to the *Popol Vuh*, was the triadic arrangement of the temples at its summit. The *Popol Vuh* refers to three hearth stones in the same arrangement set in the center of the sky by the hero twins. That act started the stars spinning—and perhaps initiated time itself. Modern Maya see the hearth stones as the three stars in the constellation Orion. The triad has been at the heart of every traditional Maya home in both ancient and modern times.

- La Danta was constructed of individual blocks of immense size. Although the Olmec built their pyramids of earthen mounds and most Maya cities were built of medium-sized limestone bricks, many of the blocks used to construct La Danta and the other structures at El Mirador weighed more than 2 tons each.

- Based on surveys of El Mirador's settlement, its population was possibly more than 100,000 people. Those people were fed by huge areas of maize crops planted in the swampy lowlands surrounding the city. But as the population deforested Mirador Basin, soil silted into those lowlands, changing the fertility of the soil. Fewer trees also meant less annual rainfall. It would appear that El Mirador's success turned into a significant factor in its demise.

- By 100 A.D., the strain was experienced not only at El Mirador but also likely across the Peten. Near the end of the city's life, the inhabitants built a wall 3 to 8 meters high around the western part of the city. On top of the El Tigre pyramid was found compelling evidence that the city was under siege at the end. Skeletons with spear points in their rib cages were found underneath fallen debris.

- The spearheads provide a fascinating clue. They were made of a particular kind of green obsidian found far away in the mines north of Mexico City. In 100 A.D., we know who controlled those mines: Teotihuacan. We also know that Teotihuacan had an influence on the Maya by about 400 A.D. But these new finds at El Mirador may prove that they were in the Peten hundreds of years earlier.

The Mirador Basin

- El Mirador was not the only Preclassic city in the Peten; in fact, 50 other Preclassic cities have been found in the region. El Mirador was connected to other Preclassic cities by extensive road systems. One such *sacbe*, or "white road," ran for 20 kilometers to the site of Tintal, whose pyramids rivaled El Mirador's in height and size. Another *sacbe* led 12 kilometers to the southeast and terminated at the site of Nakbe.

- Nakbe's layout was similar to that of El Mirador. It had two massive pyramid complexes facing each other from the east and west ends of a ceremonial precinct linked by a large causeway. It also had triadic temple arrangements built of multi-ton stones and stucco bird masks flanking its staircases.

- Surprisingly, however, Nakbe possesses ceramics and carbon 14 dates much earlier than El Mirador—possibly as early as 1400 B.C., which is before San Lorenzo, the first Olmec center, expanded beyond its borders. By 1000 B.C., Nakbe was behaving in a very Maya way, without any evidence of Olmec influence. It would appear that while El Mirador represented the height of lowland Maya Preclassic achievement, Nakbe may, in fact, be its origin.

- Nakbe, along with El Mirador, Tintal, and many other Preclassic sites, comprise what is collectively called the Mirador Basin. These cities constituted a very early cohesive social unit in the Preclassic—an entity that shared the same religious, political, and subsistence practices.

San Bartolo

- Still to this day, we know only a fraction of what we could about the Peten rain forest region. Many secrets of the origins of the Maya may lie hidden under the jungle there. Just recently discovered in that area is San Bartolo—a site whose extraordinary murals have changed the way we see the Preclassic Maya lowlands.

- San Bartolo was found in 2001 by archaeologist William Saturno, quite by accident. Needing a rest in the shade, Saturno was led to a looter's trench dug into a nearby pyramid. Looking up in the trench, Saturno noticed a full-colored mural, which turned out to date from the Preclassic, about 100 B.C. Although the murals were contemporary with other sites in the Mirador Basin, the quality of the paintings was more elaborate and sophisticated; what's more, the content depicted Maya kings.

- The other known Preclassic lowland sites never depicted kings—or even humans, for that matter. At San Bartolo, Saturno found the images of Maya kings in the act of receiving crowns. A telltale sign that these were indeed Maya royals was the fact that they were performing a bloodletting ceremony—a rite that was the cornerstone of a Maya king's right to rule.

- Once he had revealed and studied the murals, Saturno dug deeper into the pyramid and made a final discovery that was, in some ways, even more significant than the murals themselves: a building block with 10 charcoal-painted hieroglyphs. Carbon 14 dating set the glyphs at 300 B.C.—the earliest Maya hieroglyphs ever found.

- This find turned history on its head and suggested that the Maya invented writing and shared it with the Olmec, not vice versa. The

Mirador Basin may well have been the cradle of Maya civilization, as Hansen asserted. But, in fact, the more archaeology advances, the more evidence of the Maya Preclassic we find virtually everywhere.

An Earlier Origin of the Maya

- A noted example of a lowland Preclassic site is Cerros, located on the north coast of Belize. About 50 B.C., its inhabitants built a structure with two sets of masks flanking a staircase. Some archaeologists believe the masks represented the hero twins; others speculate that they were proto-versions of classic Maya gods. Cerros builders also constructed platform mounds with three temples on top, the signature triadic formation that may be symbolic of the three hearth stones from the *Popol Vuh*.

- Many sites considered to be from the Classic period have Preclassic structures underneath. For example, major Classic centers, such as Tikal and Uaxactun, have Late Preclassic architecture in their foundations, complete with giant stucco masks. Underneath the Classic center of Copan in Honduras, archaeologists discovered a shaman's burial from 900 B.C. Even up north in Yucatan, deep excavations in such places as Dzibilchaltun produced Preclassic origins going back to 300 B.C.

- In the spring of 2013, the earliest Preclassic origins yet found were discovered deep underneath a Classic-period city at Ceibal in the southern part of the Peten. Archaeologist Takeshi Inomata dug down 18 meters to a small pyramid built about 1000 B.C. And like the earliest evidence of the purely Preclassic sites in Nakbe, no evidence of Olmec influence was found.

- People we identify as Maya in the Preclassic period were in the Peten long before archaeologists consider them to be part of Maya civilization. As proof of that assertion, consider the charcoal handprints in Loltun Cave in Yucatan. The charcoal paint of those handprints has been dated to be 10,000 years old.

- The handprints are very small; they were made either by children or by adults of smaller stature, like modern-day Maya people.

- It is very possible that there were Maya people living in the Yucatan thousands of years before archaeologists consider them to be Maya.

Suggested Reading

Andrews, *Maya Cities*.

Coe and Koontz, *Mexico: From the Olmecs to the Aztecs*.

Questions to Consider

1. Why did the Preclassic lowland Maya put giant stucco masks on their temples?

2. If the Mirador Basin is so full of resources, why is it so uninhabited today?

3. When do an ancient people get the title of their descendant culture group? How early can we call Maya-stature people Maya?

The *Popol Vuh*—Creation and Hero Twins

Lecture 8

The *Popol Vuh*, the Maya story of creation, provides a vital clue in our quest to understand how the Maya and many other Mesoamericans perceived the world. A stela at the Classic site Quirigua tells us a story from the *Popol Vuh*—that three stones were set in the sky at the start of Maya creation. Therefore, we can tie the story of the *Popol Vuh* to the start of Maya time. If we want to understand who the ancient Maya were, we must understand the *Popol Vuh*.

Francisco Ximenez

- In 1701, a parish priest named Francisco Ximenez arrived at the church in the town of Chichicastenango. Ximenez spoke three Maya languages and managed to convince the local Maya of his honest interest in their history. They allowed him to examine a copy of the *Popol Vuh* hidden in the back of Santo Tomas Church. Ximenez copied it, made a side-by-side Spanish translation, and returned it.

- We know the original Maya manuscript had been written just shortly after the conquest, sometime between 1554 and 1558. Ximenez's version was copied once more in Rabinal, where he relocated in 1704, but it sat there unrecognized until 1854, when an Australian traveler named Carl Scherzer found it in Guatemala City and copied it again. It was subsequently published in Europe and became part of the documents used by the original scholars of Maya civilization.

- It was not until the 1970s, when archaeologist Michael Coe, then famous for his work in Olmec civilization, recognized that elements of the *Popol Vuh* story appeared on the painted surfaces of Maya pottery from royal tombs. Coe demonstrated that the *Popol Vuh* was not simply a period tale but something much older and more significant.

The First Three Creations

- For centuries before it was written down, the *Popol Vuh* inspired generations of Maya to heed its moral lessons and ground themselves in their cultural roots. Here is the story of the *Popol Vuh*:

- In the beginning, there was nothing. The earth did not exist, only endless sky hanging over a primordial sea. A group of gods asked a pair of creator gods—referred to as the Maker and the Modeler or the Bearer and the Begetter—to create the earth. And together, they did just that—simply through the power of their words. The waters parted and land rose up like the back of a turtle.

- The gods decided to make creatures to inhabit this world. First, they made the animals. Then, they fashioned humans out of mud. But they let the rains wash them away and went back to the drawing board for a third time. Next, they made people of wood.

- These were the first three creations of the gods: the animals, the mud people, and the wood people. But none of them was acceptable. The earth was still in darkness, the sun had yet to rise, and there were no

© Mediolmages/Photodisc/Thinkstock.

The creator gods were not pleased by their first creation, the animals, because the animals could not speak to honor the gods with words.

moon or stars. The stage was set for the events that would result in the fourth creation: humans.

7 Macaw and the Hero Twins

- Then appear some of the core characters in Maya mythology—7 Macaw and the Hero Twins.

- The character called 7 Macaw was a giant bird with jeweled eyes and a shining beak. His feathers were like gold and silver. He climbed a huge tree and proclaimed himself the sun and the moon. He was a boastful creature, full of false pride, who wanted people to view him as a god.

- The Hero Twins, named Hunahpu and Xbalanque, decided that they would shoot 7 Macaw down, but 7 Macaw ripped off Xbalanque's arm. We see that image on Izapa Stela 25; it depicts a bird atop a tree with a boy under it missing an arm. This stela is more than 2,000 years old—another indicator that the *Popol Vuh* is much older than its document form.

- The twins retreat to the house of the grandparents and ask for help to defeat 7 Macaw. They all craft a scheme to trick 7 Macaw into giving up his teeth for corn kernels and then giving up his eyes; 7 Macaw is defeated and dies. The grandparents put back Hunahpu's arm and receive jewels as a reward.

- The tale of 7 Macaw is a cautionary tale against false pride, and there's another interesting example of him in Maya ruins. A temple at the site of Caracol has bird masks on either side of its staircase. One side shows a bird with shiny teeth. On the other side, the bird has teeth that look like corn kernels.

The Fathers' Story

- In the *Popol Vuh*, we learn about how the Hero Twins came to be and who their fathers were. Their fathers, 1 Hunahpu and 7 Hunahpu, were gods, not men, and loved playing the ball game. The

Hero Twins had older brother twins named 1 Batz and 1 Chouen. Together, these two pairs of twins played the ball game all day long.

- But these games made a lot of noise, and under their feet were the Lords of Death, who didn't appreciate all the noise. The lords challenged the fathers to journey down to Xibalba to play a ball game.

- Descending to the underworld, the fathers reached a crossroads and chose the black path. The Lords of Death gave them several trials, and they failed them all, for which the fathers were sentenced to death. The fathers were sacrificed, and their bodies were burned in the ball court of Xibalba.

Transformation of the Older Twins

- The head of 1 Hunahpu was hung in a calabash tree, which then grew fruit that looked just like his face. The Lords of Xibalba forbade anyone to pick fruit on that tree. But then one day, one of the lords' daughters, named Lady Blood, became curious about that tree. She wanted to taste the fruit. She reached out, and the head spit in her hand.

- The fruit head of 1 Hunahpu had just impregnated her with Hunahpu and Xbalanque. After the twins were born, Lady Blood brought her children home, but the older brothers grew very jealous.

- The older twins put the younger boys through a number of trials, but the children were unharmed. Then, one day, the younger twins got the better of their older twins with a trick. They set out to hunt for birds, and they asked the older brothers to retrieve the birds from the trees. When the older brothers climbed a tree, the younger set of twins turned them into monkeys. Even today, the modern Maya speak about the people of the previous creation being monkeys.

Hunahpu and Xbalanque

- Hunahpu and Xbalanque became corn farmers but were not successful at it. Every night after they chopped the plants down,

more plants magically grew up again. A talking rat told them that they were not meant to be farmers but ball players like their fathers, and the rat showed them where their equipment was hidden in the roof of the house. This section of the *Popol Vuh* is seen in Maya ruins; in a stucco at the site of Tonina are depicted rafters of a roof, and a rat in the rafters is lowering down a ball.

- The boys find the ball court of their fathers and start playing. They are very happy and everything's going well—that is, until the noise of their stomping reaches the ears of the Lords of Death in Xibalba. The lords send a messenger owl to command the twins to come down.

- Hunahpu and Xbalanque take the same path as their fathers did to arrive at the crossroads. Just like their fathers, they choose the black road. The Lords of Death try the same tricks with the twins, but this time, the boys are successful at winning the trials. Then they are challenged to play a ball game.

- The lords of Xibalba win the first game. They play a second game, which ends in a tie. The lords try many times to trick and murder the boys, but they always escape. The lords are very worried that these are magical children, and they may not be able to defeat them.

- Finally, the sixth trial is a problem for the boys: the House of Bats. The twins hide in their blowguns all night to avoid the bats, but Hunahpu pokes out his head, and he is decapitated. Using magic, the boys switch the head with a gourd, and Hunahpu is reanimated.

Revenge

- Hunahpu and Xbalanque knew that the Lords of Death would never be satisfied until they were dead, they devised a way to let the lords sacrifice them without truly dying. At a dinner with the lords, the twins jump into the cooking fire. They sacrifice themselves, but the boys are reincarnated five days later—this time, as human children

- The boys go around entertaining the people of Xibalba. They perform a magic act in which they burn down a house, bring it back;

they then sacrifice a dog and bring it back. For their most amazing trick, they sacrifice each other and bring each other back to life.

- The Lords of Death order the twins to perform the show for them. One of the lords asks to be sacrificed, but as you might imagine, the boy don't bring the lord back to life. Then they reveal themselves, saying, "We are Hunahpu and Xbalanque. We've defeated you, and you'll never again bother the people on earth."

- The twins had avenged their fathers. They then resurrected them and promised that people would pray to them at the ball court. Finally, the twins ascended into the sky, becoming the sun and the moon.

Suggested Reading

Christenson, *Popol Vuh*.

Freidel, Schele, and Parker, *Maya Cosmos*.

Scarborough and Wilcox, eds., *The Mesoamerican Ballgame*.

Tedlock, *Popol Vu: A Translation*.

Questions to Consider

1. Do you think the original written *Popol Vuh* manuscript, with its drawings, still exists in the Guatemalan highlands?

2. Creation stories are usually morality lessons. What lessons might the *Popol Vuh* teach?

3. What does the *Popol Vuh* say about the relationship between human and animals?

The Great City of Teotihuacan

Lecture 9

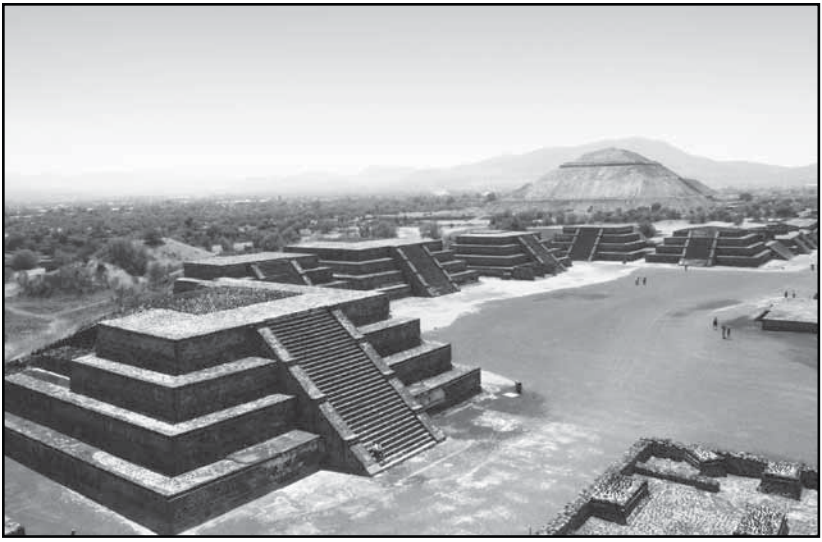
Teotihuacan was the largest city ever built in pre-Columbian Mesoamerica—in fact, in all the Americas. Located in the valley just north of today's Mexico City, Teotihuacan covered more than 30 square kilometers, dominated by pyramids, ceremonial causeways, and elite residential complexes. At its height, around 680 A.D., it possessed an extraordinarily diverse population of about 150,000. Many questions remain unanswered about Teotihuacan, but one aspect is clear: The city and its inhabitants dominated the Maya and all of Mesoamerica for centuries during the Early Classic period.

Pyramid of the Moon

- Beginning around 150 B.C., Teotihuacan began to grow through a massive migration from the valleys south of Lake Texcoco at the same time that the population of the great Preclassic city of Cuicuilco was declining. Archaeologists view Cuicuilco as the first truly urban center in Central Mexico, with a population of about 20,000 people. But after several volcanic eruptions, inhabitants from Cuicuilco migrated north to the areas near Teotihuacan, and by 100 B.C., they had begun to build what would become Mesoamerica's largest city.

- There are four major features of Teotihuacan: the Pyramid of the Sun, Pyramid of the Moon, Ciudadela, and Avenue of the Dead.

- The Pyramid of the Sun and Pyramid of the Moon are conceptually a pair, with similar architectural styles. At 43 meters tall, the Pyramid of the Moon stands at the north end of the Avenue of the Dead. It was built in five phases, reaching its final height about 250 A.D. Contained within it was a royal tomb with a male surrounded in burial offerings. Around the tomb were numerous sacrifices, both human and animal, all of which were apparently buried alive.



© David4real/iStock/Thinkstock.

The main axis of Teotihuacan—the largest city in pre-Columbian Mesoamerica—is the Avenue of the Dead, built in the B.C. period and expanded until it reached almost 4 kilometers in length.

- Many sacrificial burials have been found at Teotihuacan, confirming the existence of its violent ritual life. But the discovery of the tomb in the Pyramid of the Moon was the first time that one of Teotihuacan's ruling class had been found. The tomb also provided an important clue to the function of the Pyramid of the Moon; it held the body of a deceased ruler and was consistent with the wider Mesoamerican tradition of ancestor worship.

Pyramid of the Sun

- The Pyramid of the Sun, with a height of 63 meters and a square base measuring 115 meters on a side, is the third largest pyramid on earth. In 1971, excavations along its western base revealed an entrance leading into a tunnel-like cave underneath the pyramid. A staircase was built down to it from an entrance on the pyramid side. The cave's end is just off dead center of the pyramid, demonstrating that it was built according to the sun's position.

- It appears that the location of the Pyramid of the Sun—or perhaps even Teotihuacan itself—was based on the location of this cave. Because caves are symbolic entrances to the underworld—the place of the dead and the ancestors—the Pyramid of the Sun was the location of ancestor worship rituals.

- Many scholars believe that the cave underneath Teotihuacan is specifically meant to symbolize Chicomoztoc—the cave, according to Aztec mythology, that served as the place of human origin or the first emergence of humans. Chicomoztoc is said to have seven passageways. Teotihuacan's cave has a total of seven segments.

- Most recently, excavations in 2012 to repair the top of the Pyramid of the Sun found the base of the temple that once stood on top of its summit. Underneath that base was a pit containing a 400-pound stone statue of Huehueteotl, the Fire God. By 250 A.D., the Pyramid of the Sun was the largest structure ever built in the Americas and a testimony to the power of Teotihuacan.

Temple of Quetzalcoatl

- At the heart of the Ciudadela stood one of the signature buildings in all of Mesoamerica: the Temple of Quetzalcoatl. The Ciudadela was a large sunken plaza surrounded by small platforms. On the eastern end stood the Temple of Quetzalcoatl, or the "Feathered Serpent," opposite the Pyramid of the Moon.

- The temple's façade was covered with stone sculptures depicting the Feathered Serpent, and on the temple's balustrades on the terraces was a repeating figure of the head of Quetzalcoatl. Although there were hints of Quetzalcoatl's existence before this, Teotihuacan was the first place in Mesoamerica where this significant deity is so clearly in evidence.

- The temple also introduces to us to another celebrated god of Central Mexico: Tlaloc, the Rain God. Interestingly, the illustration is actually Quetzalcoatl dressed as Tlaloc. Other depictions show

Teotihuacan warriors dressed as Tlaloc; thus, it is possible that this Quetzalcoatl is dressed as a warrior who is dressed as Tlaloc.

- The numerous sacrificial burials found within the Temple of Quetzalcoatl demonstrate that warfare is connected to the purpose of the building. Within the temple are large areas with human graves, mostly those of male warriors. The warriors, buried with obsidian spear points and necklaces made of human jawbones, may have been Teotihuacan warriors, not captive enemies. They were all buried at the same time the temple was built, about 200 A.D.—a testament to Teotihuacan's warrior culture.

A Cosmopolitan Center for Trade and Commerce

- Teotihuacan's main axis was the Avenue of the Dead, along which were dozens of smaller pyramids, platforms, and elite residential compounds. About 250 A.D., builders in Teotihuacan stopped constructing temples and began building apartment complexes. There are more than 2,000 of these apartment compounds, each capable of holding 50 to 100 people, and connected by a grid system of streets.

- A city dedicating its resources to creating urban infrastructure and housing was a first in Mesoamerica. It appears that Teotihuacan's inhabitants were creating a mercantile state. Each apartment compound had within it multiple craft workshops, where much of the population was involved in creating trade items.

- There were many different kinds of craft workshops at Teotihuacan, but the main workshops were for obsidian. Teotihuacan controlled the Pachuca mine north of the city, which produced a unique kind of beautiful green obsidian. It is found by the ton at Teotihuacan and was almost certainly the foundation of the city's wealth.

- In addition to apartment complexes housing local people, Teotihuacan had a few foreign neighborhoods. One was a Maya area, complete with Maya-style buildings, Maya burials, and Maya craft goods. Another was a Zapotec area, producing Zapotec craft goods,

especially ceramics. Another was a merchants' neighborhood, containing items from Veracruz and the coastal cultures in that area. Teotihuacan had a very cosmopolitan population and was a center for trade and commerce—a first in Mesoamerica.

A Warrior Culture

- A handful of apartment complexes closer to the ceremonial center of the city were richly decorated with wall murals. Those compounds tell us significant information about Teotihuacan's religion and its military machine.

- The Tepantitla complex murals depict the goddess Tepantitla—a unique goddess, found nowhere else in Mesoamerica. She wears a large bird headdress and a rectangular nosepiece. Her complexion is often green, and she is associated with water and plants. Most scholars regard her as a deity of the underworld, connected to the ancestors in death. A 3-meter-tall statue found at the base of the Pyramid of the Moon is likely Tepantitla, demonstrating that she is Teotihuacan's main deity.

- Another elite complex named Atetelco, perhaps a military barracks of sorts, contains murals depicting warriors. During the later Aztec times, warriors were of two main types: eagles and jaguars. The Atetelco murals seem to depict the origins of that tradition—but 1,000 years earlier. Atetelco shows jaguars eating hearts, blood dripping from the walls, and severed heads. The hundreds of gruesome human sacrifices found within the Temple at Quetzalcoatl prove that these were not just abstract illustrations; human sacrifice was common at Teotihuacan.

- The warriors depicted in the Atetelco murals wear helmets, hold square shields, and wield their weapon of choice: the atlatl. And in the 4th century, with this battle gear in hand, Teotihuacan warriors started expanding their territory.

Teotihuacan's Reach and Influence

- Teotihuacan maintained a strong presence all across Mesoamerica during the Classic period. Between 300 and 400 A.D., the people of Teotihuacan established contacts as far as modern-day Honduras, ventured into Oaxaca and the Maya lowlands and highlands, and branched out into western Mexico.

- A signature aspect of Teotihuacan's reach and influence was the diffusion of its distinctive architecture style, called *talud-tablero*. *Talud-tablero* was a pyramid and platform building style that involved repeated terraces of sloping walls topped with a flat, tablet-like surface overhanging that slope.

- Another indication of Teotihuacan's influence were the tripod ceramic vessels. Beautifully made and often painted, these vessels were found in tombs of the elite. Art and ceremonial objects and architectural types were found outside of Teotihuacan by about 300 A.D. By the mid-300s, their influences spread down through Guatemala, into the highlands, and into the Maya capital of Kaminaljuyu. In fact, the Teotihuacan influence was so intense in Kaminaljuyu that an entire acropolis in the city was built in the Teotihuacan style, with burials filled with tripod vessels.

The Demise of Teotihuacan

- In 378 A.D., hieroglyphs at Tikal record that the same day a Tikal ruler died, a prince from Teotihuacan was installed in his place. Strangely, however, despite Teotihuacan's obvious dominance and militaristic iconography, archaeology finds no evidence of battles in the Maya area during this time. Even more surprising, there is little evidence of Teotihuacan trade goods in the Maya region. Their green obsidian should be everywhere, but to date, the sum total of green obsidian found at Tikal could fit inside a single shoebox.

- Teotihuacan hit Mesoamerica like a lightning bolt, but it disappeared almost as quickly. By the mid-400s, the Maya no longer used Teotihuacan-style art and architecture. By the 500s, Teotihuacan influence had retracted back into Central Mexico. By

the 600s, turmoil began, and in 650, the great city of Teotihuacan was burned to the ground. The influence of Teotihuacan, however, resounded all the way up to the Spanish conquest.

Suggested Reading

Braswell, ed., *The Maya and Teotihuacan*.

Miller, *The Art of Mesoamerica*.

Millon, "Teotihuacan."

———, *The Study of Urbanism at Teotihuacan, Mexico*.

Questions to Consider

1. Why did Teotihuacan use a grid pattern to arrange the city?

2. What is the Venus-Tlaloc war complex? Why are those symbols used in combination?

3. Would Teotihuacan have lasted longer as a capital if it had not extended itself so far south?

How the Maya Mastered Mathematics

Lecture 10

An authoritative command of mathematics allowed the Maya to advance far beyond their contemporaries. In fact, Maya mathematics is so complex that we have yet to discover all their innovations. The Maya devised a powerful system of numeration that lent itself easily to calculations and the expression of extremely large numbers. In this lecture, we'll study the Maya's unique base-20 numbering system, the vigesimal system; their positional structure of numeration; their innovative use of zero; and the Long Count calendar.

Numbering Systems: A Comparison

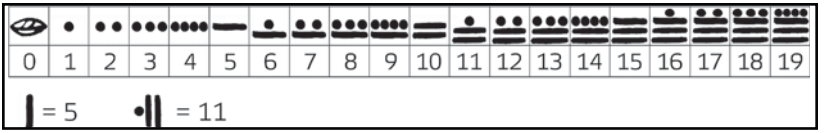
- To be able to compute and express mathematics, the most basic tool required is a numbering system. The Western world uses base 10, or a decimal numbering system, which is of Arabic origin. Computer programming uses a binary code, or base-2 system, which uses only 0 and 1.

- Mesopotamia, which developed its numbering system about 2000 B.C., used a base-60 system, one with 60 individual symbols. That system is reflected today in the 60 minutes in an hour, 60 seconds in a minute, and 360 degrees of a circle.

- The Roman numbering system was not a positional system of numeration; it had no base. Instead, it was an additive, or a sign-value, notation system. Because the Roman numeral system was incapable of performing mathematical computations, the Romans used an abacus to do math.

- The people of Mesoamerica decided on base 20, called the vigesimal system. With their positional base-20 counting system, they could express any number in writing, approaching infinity. The Mesoamerican system was just as useful for mathematics as our modern base-10 system, but it was more elegant than ours. Although

© Fruitpunchline/Wikimedia Commons/CC BY 3.0.



The Maya numerical symbols may have originated from pre-writing times, when physical objects were manipulated to express numbers and perform computations.

we need 10 symbols to make our system work, the Mesoamericans pulled it off with only three symbols.

- In the Maya system, a dot represents 1, a bar represents 5, and a shell or a flower represents 0. That means that 1 is one dot, 2 is two dots, 3 is three dots, and so on, until 5, which is a bar. A 6 is a bar with a dot over it. The 10 is two bars, 11 would be two bars with a dot, and so on, until 19, which is three bars with four dots.

Zero and the Positional System of Numeration

- A crucial key to the utility of any mathematical system is the concept of zero. More than 2,000 years ago, the concept of zero was developed in Mesoamerica—a revolutionary innovation in ancient times. Many ancient counting systems, such as those of the Egyptians, Greeks, and Romans, did not include zero. Even early India and China, which did use positional systems of numeration, did not originally have a symbol for zero.

- It is difficult to say where the very first zero was invented, but it was either in Mesoamerica or Mesopotamia. The current evidence gives it to Mesopotamia and the Babylonians. They inherited a positional system of writing from the Sumerians; then, around 300 B.C., they added a symbol (two slanted wedges) for zero.

- Interestingly, for more than 1,000 years, Mesopotamians used a positional system of numeration without a symbol for zero. They just left a blank space instead, which was a problem in certain

contexts. For example, the numbers 62 and 602 could look the same in a very tight text.

Long Count Calendar

- Mesoamerica developed a positional system of numeration. The first recorded number we have is from Oaxaca from about 600 B.C. Mesoamerica's first evidence of an actual positional system of numeration comes from a calendar cycle called *Long Count*. The Long Count calendar had five positions, each going up by a magnitude of 20. If nothing was in one of those positions, it would contain a zero. Therefore, some speculate that the Mesoamerican zero is at least as old as the Long Count system; that would put it back to the 1st century B.C.

- We have only a handful of Long Count dates from the first centuries B.C. and A.D. The earliest contemporary zero date is found on Uaxactun Stela 19, dated February 1, 357. That translates to a Maya Long Count date of 8.16.0.0.0, celebrating a period ending that occurred in 357 A.D.

- Some scholars assume the presence of zero from the very first Long Count date inscribed on a stone. Even if that is true, however, we are still not sure whom to credit: the Maya or the Olmec.
    - An Epi-Olmec monument at Tres Zapotes dates to 32 B.C. The oldest Long Count date, and one clearly in Maya territory, is from the site of El Baul, which dates to 36 A.D., nearly 70 years later.

    - But the oldest Long Count date known is 36 B.C., from the site of Chiapa de Corzo in Chiapas, Mexico. And—amusingly—it cannot help to end the debate because scholars are not sure whether that was a Maya or an Epi-Olmec site. But it is probably Maya because it's in Maya territory.

The Heresy of Zero

- Why did certain cultures feel the need to create zero and others did not? The answer might have to do with the purposes and uses

of mathematics in the culture. The Egyptians, for example, were using numbers to measure out fields and construct buildings. Their purpose in using mathematics was all about shapes, and because a rectangle cannot have a side of zero units, the zero was not needed.

- The creation and use of zero is also a reflection of a culture's cosmology. Such cultures as the Sumerians and the Hindu had a creation story that began with nothing, a void; thus, they were comfortable with the concept of nothing. The Greeks and Romans, in contrast, told creation stories that began with something physical, the realm of the gods, and therefore, the void was a more alien concept to them.

- In fact, the Christian world subscribed to Aristotle's mathematical calculations—proving the impossibility of a void and its equal opposite, infinity—as proof of the existence of God. It was this worldview that kept the use of zero in mathematics away from mainstream Europe up until the 16th century. The church forbade its use, because an acceptance of zero equated to a rejection of God and the finite universe.

- When the first Jesuit priests made contact with the Maya in the early 1500s and studied their books, they could see that the Maya were using zero in their calculations. But that heresy had to be stamped out, so Spanish priests burned all the Maya books. It was not until 1582—when the Gregorian calendar was decreed by Pope Gregory XIII—that European priests could openly accept zero.

A Grid-System Theory of Computation

- In the Maya positional numeration system, the three symbols were written vertically. In the process of expressing expresses higher and higher numbers, the Maya system demonstrates that it is more elegant and sophisticated than ours. For example, the number 120,806, which uses six positions in our counting system, uses only four in Maya.

- Frustratingly, we have no evidence of Maya computation. Because the Babylonians used clay tablets, we have examples of math problems being worked out. The Maya, however, made paper, which is where they probably did their calculations. The Maya monuments just give us the neat, finished products.

- The Maya may have used grids for computation and higher mathematics—just as they used grids to write hieroglyphics. Hector Calderon, a Mexico City author, wrote a book in 1968 about how to compute Maya math using a grid.
    - There is some supporting evidence that the Maya used grids for computation. Some stones around ruins had grids scratched into them; these might have been places where people were computing.

    - Another piece of evidence is that the Maya used a board of grids to play a game similar to checkers. Modern Maya shamans in the Guatemalan highlands do readings with groups of seeds, arranging the seeds in a grid pattern, then counting through them.

    - According to Calderon, using a grid and arranging Maya bars, dots, and zeros within it allows one to simply group and split to add and subtract numbers quite easily. In fact, the grid system has a visual component that makes it even easier to do math than those same operations with Arabic numerals. Multiplication and division can be done in a grid, too, although they are more complicated than simple addition and subtraction.

Missing Mathematical Texts

- Unfortunately, we have no Maya texts that count objects in high numbers. We see only days and dates, all in the Long Count calendar system.
    - What's more, the Long Count system augments the third position to be 360 days, not 400, as in a true base-20 system. That means that the next position above 360 is 7,200, not

8,000. The next one up would be 144,000, not 160,000, again, as in a straight base-20 system.

- Aztec tribute records note large numbers of physical things, such as 200 rubber patties or 4,000 avocados; thus, we know that they used 400 as their third place. It's a straight base-20 number system in that case. But we have no known Maya text that mentions a group of things other than days that exceeds the number 360.

- There are not many images of Maya people doing math. One, on a Maya vase, illustrates what appear to be teachers showing students how to express something in numbers. Between them are numbers floating around with lines pointing to their mouths. And those teachers are wearing hats with grid patterns on them.

- In our next lecture, we'll discuss the most common context in which we find Mesoamerican numbers—in their calendar systems.

Suggested Reading

Sharer, *The Ancient Maya*.

Questions to Consider

1. Why did the Maya use bars and dots in their numbering system? Why did they use shells and flowers for zero?

2. Do you believe the Maya used grids for mathematical operations? What other ways could they have done computations?

3. Why did the other cultures in Mesoamerica reject the use of the bar to represent 5?

The World's Most Elaborate Calendar

Lecture 11

Scholars believe that the Maya created the most intricate and complicated calendar system in the entire ancient world. Most of Mesoamerica used two calendar cycles—the sacred calendar and the solar calendar. But the Maya added three more cycles to record dates on their monuments—the Long Count, the nine lords of the night, and the lunar count. In this lecture, we'll examine the calendar systems of Mesoamerica and how the Maya brought them to a level of sophistication unrivaled in the world.

260-Day Sacred Calendar

- It is foreign to the Western mindset, but Mesoamericans did not divide a single day into such concepts as hours, minutes, and seconds. They recognized night and day as their division points and noon as the moment when the sun passed through the center point of the sky. The first calendar Mesoamerica created and the one that still exists today is the sacred calendar of 260 days, or the Tzolk'in. It consists of 260 unique day names but with no divisions into months or weeks.

- Mesoamericans used the concept of a cycle to visualize how time works. Time was a loop to them, a repeating pattern. What happened before will happen again. Westerners see time as linear, like a line headed into the horizon.

- In the 260-day calendar are 20 day signs, each with its own symbol. These 20 day signs are combined with 13 numbers to create 260 unique day names. This was not only a Maya calendar, but it also belonged to nearly every culture in Mesoamerica. If there's one unifier that defines Mesoamerica as a single cultural region, it's the 260-day sacred calendar.

- The cycle of 260 days is not based on the stars; it is particularly human: 260 days is approximately nine months, or the human gestation period. Archaeologists are not certain when the 260-day calendar began or even which cultural group created it. However, the earliest representation that archaeology has found comes from San Jose Mogote in the Valley of Oaxaca. Based on nearby carbon-14 dates, it was carved around 600 B.C.

Solar Calendar—the "Year Bearer" System

- After the 260-day calendar had been established, a solar calendar of 365 days was created. The first solar calendars used the 20 symbols of the 260-day calendar but simply rolled them forward to include 365 days instead.

© HJPD/Wikimedia Commons/CC BY 3.0.

Oaxaca may or may not be the origin place of the sacred and solar calendars, but it provides our earliest known examples, as in the stela found in the city of Monte Alban.

- The earliest known example of the solar calendar was found in Oaxaca, in the Zapotec capital city of Monte Alban. It was discovered on a set of stelae that date to the city's origins, sometime around 200 to 100 B.C. The Monte Alban stelae illustrate that the solar calendar used a "year bearer" system to display any given year within a 52-year cycle. Above the day name in the 260-day calendar was added a year bearer symbol, marking it as a solar reckoning.

- As time went on, the year bearer system was used everywhere in Mesoamerica. The Mixtec codices provided clear examples of this system as they recorded Mixtec history in the 10th century.

Solar Calendar—the Maya Haab

- All of Mesoamerica adopted the year bearer system to represent the solar year—except the Maya. The Maya created a more detailed solar calendar, one archaeologists call the Haab.

- The Maya solar calendar divided the year into 18 months of 20 days each. Each month had its own name, and each day within a month had the number 0 through 19 associated with it. But if we do the math, we notice that 18 multiplied by 20 is only 360 days.

- The Maya added a 19th month of just 5 days. This short period was called the Wayeb, and it was considered an unpredictable and potentially dangerous time of the year. Thus, with the 5 final days, the Maya created a unique and complete solar calendar. It did not include a leap year, however; for that reason, some scholars have referred to it as the vague solar year.

Long Count Calendar

- The simpler year bearer system and the more complex Maya Haab allowed the people of Mesoamerica to record unique events in time within a 52-year cycle. But as the cities of Mesoamerica grew in size and complexity, so did their interest in recording longer cycles of time. They needed a way of recording generations of achievements and lineage.

- The Maya's solution was the Long Count calendar, one of the most distinctive and enigmatic calendars ever created. The Long Count is essentially a Mesoamerican linear count of days. It has a specific start date some 5,000 years ago, and it continues to roll into the future, just as the Christian calendar does. That start date, or Day 0, correlates to August 11, 3114 B.C.

- The standard Long Count calendar has five positions: days (*kins*), months of 20 days (*winals*), 360-day years (*tuns*), 20-year periods (*k'atuns*), and 400-year periods (*bak'tuns*). Archaeologists are still not certain why the Maya year had only 360 days; that would not have been helpful for farmers.

- Another unanswered question about the Maya Long Count calendar is how the Maya represented Day 0 back in 3114 B.C. The Maya noted that at that date, 13 *bak'tuns* had been completed. Western scholars write the Maya start date as 13.0.0.0, but the next day is written as 0.0.0.1.

- Most scholars agree that the Maya are saying that the third creation ended when 13 *bak'tuns* were completed and that time began with the fourth creation. This, in turn, led people to the belief that the fourth creation would also end after 13 *bak'tuns* were once again completed. That inspired the exciting—and erroneous—legend that the Maya predicted the year 2012 as the end of days.

Distance Numbers

- A typical Maya stela from the Classic period depicts a Long Count date anchoring the first event discussed in its text. Maya hieroglyphic texts read in double columns from left to right and then down. A Long Count begins with an introductory series initial glyph (ISIG).

- Maya monuments typically discuss multiple events in history. To do so, they use a modified version of the Long Count using distance numbers. To understand how distance numbers work, consider the Piedras Negras Stela 3 as an example.

- On the stela, the birth date of the queen is 9.12.2.0.16, or in our calendar, June 27, 674 A.D. The first distance number is the Long Count system but in reverse, starting with the days instead of the *bak'tuns* and counting up. In this case, it counts up 12 years to the moment that the lady is married and becomes a queen of Piedras Negras. After that count, the calendar round is recorded, which is the combination of the solar and the sacred year.

- With the Long Count, the Maya created a system to record their histories down to the day over spans of thousands of years. The distance number system allowed them to discuss multiple events in a single text and create complex historical documents.

Nine Lords of the Night and the Lunar Count

- It is no exaggeration to assert that the Maya created the most elaborate calendar in the ancient world. They not only used three different cycles to represent a single date—the 260-day Tzolk'in, 365-day Haab, and 360-day Long Count—but they also added three other cycles: the lunar count, the nine lords of the night, and the 819 cycle. Each of these cycles was made by and exclusive to the Maya; no other culture in Mesoamerica seems to have used or understood them.

- A standard Long Count at the top of a Classic period Maya stela follows a set sequence. First, the ISIG appears; then the Long Count; then the Tzolk'in; then the supplementary series; and finally, the solar calendar. The supplementary series contains the lunar count and the nine lords of the night.

- The nine lords of the night is a single glyph that cycles through a 9-day week. However, the name is a misleading confusion from early scholarship. The Aztec spoke of nine sections of the sky, each ruled by a celestial lord. Somehow, that concept of nine lords of the night was applied to the Maya calendar.

- Even more interesting and complex is the lunar count, which indicated the number of days in a lunation (a 29- or 30-day period), the number of lunations in a series of six cycles, and the name of the moon.

- In 2011, a rare set of lunar calculations was found painted on the interior walls of a small structure in the ruins of Xultun in northern Guatemala. It depicted successive columns of numbers, multiples of the numbers 177, 176, and 148. Those represented five or six lunations. The only times that eclipses would occur would be during one of those three number counts.

A Remarkable Number

- What was most fascinating was that an inscription at Xultun contained an extremely long number: 1,195,740 days. That

number has been found in the theory of the 819 cycle, devised by archaeologist Christopher Powell.

- The 819 cycle is a calendar that the Maya invented late in the Classic period, and it spread across the Maya world in the late 600s. According to Powell, 949 is the hidden number behind the Long Count. The number 73 is the highest common divisor between the cycles of the sun (365 days) and Venus (584 days). The number 13 is also key: 13 multiplied by 20 equals 260.

- Each of the five positions of the Long Count interacts with the numbers 949, 73, and 13 in dynamic ways. One of the amazing discoveries is that the number 949 actually equals 365 plus 584, or the sun cycle plus the Venus cycle.

- Powell devised a chart comparing the two systems—949 and the 819 cycle. The highest common divisor of 949 is 73. The highest common divisor of 819 is 63. What's more, 73 multiplied by 260 equals 18,980, or the calendar round, and 63 multiplied by 260 equals 16,380. Then, Powell swapped the two numbers in calculating. He noted that 73 multiplied by 16,380 equals 1,195,740 days, and 63 multiplied by the calendar round 18,980 equals the same number: 1,195,740.

Suggested Reading

Aveni, ed., *Foundations of New World Cultural Astronomy*.

Duran, *Book of the Gods and Rites and the Ancient Calendar*.

Malmstrom, *Cycles of the Sun, Mysteries of the Moon*.

Milbrath, *Star Gods of the Maya*.

Tedlock, *Time and the Highland Maya*.

Questions to Consider

1. Why didn't any other culture in the world adopt a 260-day calendar?

2. Why do you think the Long Count is augmented to 360 days at the third place?

3. Who made the Long Count, the Olmec or the Maya?

Tikal—Aspiring Capital of the Maya World

Lecture 12

If any Classic period city aspired to become the capital of the Maya world, it was Tikal. Tikal was located in the Peten rain forest of northern Guatemala. Estimates vary on its population, but it most likely had approximately 90,000 inhabitants. Tikal was occupied for 1,500 years—from 600 B.C. to 900 A.D., and archaeologists know of at least 33 rulers in a dynastic line there. Then, Tikal was suddenly abandoned, with no sign of attack or internal rebellion. People just walked away, and the jungle swallowed up Tikal for more than 1,000 years. In this lecture, we'll discuss Tikal's dramatic rise to and fall from power.

Mundo Perdido, or "Lost World"

- The first official record of Tikal is from 1848, when a Guatemalan commissioner named Modesto Mendez discovered it in the jungle. His report was not published until 1853, however; thus, early explorers, such as Stephens and Catherwood, never had the opportunity to see Tikal.

- Then, in the 1880s, explorer Alfred Maudslay took the first photographs of Tikal. Maudslay located five massive pyramids, dozens of smaller ones, and many carved monuments. University of Pennsylvania projects in the 1950s and 1960s found more structures, including huge causeways and reservoirs.

- In the 1990s, Guatemalan archaeologist Juan Laporte discovered Tikal's earliest architecture in a section of the city that University of Pennsylvania archaeologists had named the Mundo Perdido, or "Lost World." In the center of that area was one main pyramid with five different construction phases. The earliest phase dated back to 600 B.C. By 200 A.D., builders had finished its last phase, and it reached a total height of about 30 meters.

© Simon Dannhauer/iStock/Thinkstock.

In the 1880s, photographs of the massive pyramids in Tikal taken by Alfred Maudslay stunned the world.

A Major Classic Period City

- Tikal's written history begins with its ninth ruler, Foliated Jaguar. He appears on Stela 29 in full costume; on the back of the stela is a single Long Count date, July 6, 292 A.D. Foliated Jaguar is wearing a large headdress and holds the double-headed serpent bar—a symbol of Maya royal authority. In the year 292, this stela was the very first depiction of a double-headed serpent bar.

- Rulers 11, 12, and 13 are named in isolated texts, with nothing more than their parentage statements. Ruler 12 is of interest because some scholars believe that Une' Balam was a woman, making her the earliest known Maya queen. Her son ruled until 359, then power passed to a man named Jaguar Paw.

- It was during Jaguar Paw's reign that Tikal became a truly major Classic period city. Key to the king's success was his new trade relationship with a powerful city far to the west—Teotihuacan. But

then Jaguar Paw's fortunes suddenly changed, and with them, the destiny of Tikal.

Relationship with Teotihuacan

- Jaguar Paw's relationship with Teotihuacan brought the arrival of a warlord, Fireborn, on January 15, 378. Texts indicate that he was the emissary of the Teotihuacan king, a man named Spearthrower Owl. The texts also note that on that very same day, Tikal's ruler, Jaguar Paw, died. What happened next changed not only Tikal but also the entire Maya world.

- The son of Spearthrower Owl, a Teotihuacan prince named First Crocodile, was installed on the Tikal throne. Strangely, archaeology can detect no disruption or evidence of fighting during this time. Jaguar Paw was buried with honor, and his palace remained untouched for the rest of Tikal's history.

- A Teotihuacan-style *talud-tablero* platform was erected in the middle of the Mundo Perdido plaza. On top was a glyph reading "Spearthrower Owl." Another *talud-tablero* structure was built near the heart of the city, commonly called the Teotihuacan embassy. Both buildings were decorated with Teotihuacan symbols—the Central Mexican symbol for Venus and the goggle-eyed Tlaloc, the Rain God.

- A decorated pot found among burial offerings seems to tell the tale of the meeting of these two cultures. Its illustrations do not show a military clash; they seem to show a peaceful relationship of trade and communication.

A Maya Identity for Tikal

- Evidence around the Peten indicates that Spearthrower Owl was indeed exerting military force over his neighbors in the name of his war captain, Fireborn. Fireborn's name appears a number of times in nearby cities, including Uaxactun. Uaxactun started out as an ally, but a monument naming Fireborn was erected right in

front of a temple. Underneath the temple were found the bodies of a murdered royal family, women and children included.

- Fireborn's son took the throne of Tikal in 411, and the city adopted a more Maya identity. His ascension monument was an indicator of his strength. It doesn't show someone giving him the crown; it depicts him crowning himself. He presided over the significant arrival of the ninth *bak'tun* in 435. Many other Maya dynasties began at about that same time, and all of them were allies of Tikal.

- At the beginning of the ninth *bak'tun*, Tikal's fortunes were improving, its sphere of influence was expanding rapidly, and its control over neighboring cities was absolute. However, this was not to last. Another great city to the north was plotting against Tikal. Even as the grandson of Spearthrower Owl was laid to rest in his tomb, the kingdom of Calakmul was growing in power.

Maya "Star Wars"

- Calakmul at its height was even greater than Tikal. And as Tikal was expanding its kingdom, so was Calakmul. Calakmul's ceremonial center had two massive pyramids and more than 110 stelae. A survey of its periphery found more than 6,000 buildings.

- Tikal's king, Precious Peccary, waged war against an ally of Calakmul. Over the lifetime of the next few rulers of Tikal, the fate of the city changed for the worse.

- After the death of the Tikal king in 508, a woman took the throne; a female ruler may have indicated some sort of problem with the dynastic succession. Tikal's troubles came to a head during the reign of the following king, Double Bird. In the year 553, he presided over the ascension of Caracol's new ruler. Caracol was clearly part of the Tikal kingdom, but then, three years later, Tikal attacked Caracol in what it referred to as a "star war."

- Maya "star wars" were written as the symbol of Venus over the earth, a shell, or the city that they were attacking. To the Greeks,

Venus was a symbol of love, but in Mesoamerica, Venus was associated with war. It may have been that the Maya were ritually timing their battles to the first appearance of the Morning Star.

War between Tikal and Calakmul

- As it turns out, Calakmul elites had been intermarrying their daughters into Tikal's region and undermining Tikal's authority. Maya cities then took sides in a regional war between Tikal and Calakmul. In 562, just nine years after Tikal had presided over Caracol's ascension ceremony, Caracol's warriors overran Tikal and sacked the city.

- In the aftermath, Maya cities in the Peten lined up to secure alliances with Calakmul. At Tikal, a hiatus of 130 years began, during which time the inhabitants were not allowed to build a single temple or erect any monuments. Calakmul was in control of Tikal, but it let Tikal continue its dynastic line of rulers.
    - There's an interesting insight into Maya thinking here. In Europe, wars were about land and control of resources. When one city defeated another, the conquerors flew their flag over the conquered city. This was not the case in the Maya regions. These people were fighting for something other than land—quite possibly, access to the supernatural and the favor of the gods.

    - A Maya ruler's power was founded on his ability to contact his ancestors in the other world. Although common Maya ancestors lived in Xibalba, the underworld, royal ancestors ascended into the sky and lived among the gods. What Calakmul wanted was Tikal's supernatural power, not its wealth or land. The conquerors wanted an ability to contact the gods—not Teotihuacan gods but Maya gods.

- Calakmul eventually engineered a split in the Tikal royal family and established a new city, Dos Pilas. But when Dos Pilas began performing bloodletting rituals contacting Tikal's ancestors on behalf of Calakmul, it was too much to bear. They had to fight. Tikal

held Dos Pilas down for five years. But then Calakmul intervened and repelled Tikal.

The Disappearance of Tikal

- On August 5, 695, Jasaw Chan K'awiil—the liberator of Tikal—defeated Calakmul in battle. Although Jasaw continued his career as a war chief, the focus of his long reign was on rebuilding Tikal. The city had not been allowed to erect a temple in 130 years. During Jasaw's reign, the massive pyramids we associate with Tikal were built.

- One of the most telling aspects about the outcome of Jasaw's victory was how he depicted himself afterward; he showed himself in the uniform of a Teotihuacan warrior. For the first time in 130 years, a Tikal king could demonstrate his Teotihuacan heritage.

- If Jasaw was Tikal's liberation, his son, Yik'in Chan K'awiil, was its vengeance. He spent his entire reign attacking the cities that had betrayed Tikal back in the mid-6th century. He built a massive 64-meter temple—the largest temple during the entire Classic period—and decisively brought Tikal back to regional domination.

- We can also credit Yik'in with building the majority of Tikal's causeways and excavating its reservoirs. The reservoirs were a prime example of the Maya's skill in engineering. In their pristine state, they were lined with limestone plaster to retain water. The plazas all around them were canted just 1 degree, imperceptible to the human eye but enough to make the city's plazas huge catchment basins.

- The final Tikal king known, the 33rd in dynastic sequence, was named Jasaw Chan K'awiil in an obvious attempt to conjure authority from better days. A single stela from him was erected in the main plaza in the year 869. Soon after, Tikal was abandoned and swallowed up by the jungle—never to be seen again for 1,000 years.

Suggested Reading

Adams and Jones, "Spatial Patterns and Regional Growth among Classic Maya Cities."

Andrews, *Maya Cities*.

Braswell, ed., *The Maya and Teotihuacan*.

Haviland, "Tikal, Guatemala and Mesoamerican Urbanism."

Martin and Grube, *Chronicle of The Maya Kings and Queens*.

Schele and Friedel, *A Forest of Kings*.

Schele and Mathews, *The Code of Kings*.

Questions to Consider

1. Why did Calakmul back the establishment of Dos Pilas?

2. Did Tikal invite Teotihuacan into their bloodline, or was it more of a subjection relationship?

3. Why did Tikal build reservoirs instead of just settling next to a river or nearby Lake Peten Itza?

Maya Hieroglyphs—Breaking the Code

Lecture 13

Of all the world's early scripts, Maya is quite possibly the most beautiful. Although Egyptian hieroglyphs are more elaborate, they are not nearly as elegant and flowing as Maya glyphs. Maya hieroglyphs are more than just a writing system; they are an art form. In fact, the Maya use the same word for both *writer* and *painter*. Because they employed calligraphic art, Maya scribes had the freedom to vary the look of their symbols. In fact, that is one of the reasons that the hieroglyphic code was initially so difficult to crack. In this lecture, we'll examine the history of translation efforts and discover how scholars from all over the world, in a variety of disciplines, deciphered Maya hieroglyphics.

Diego de Landa

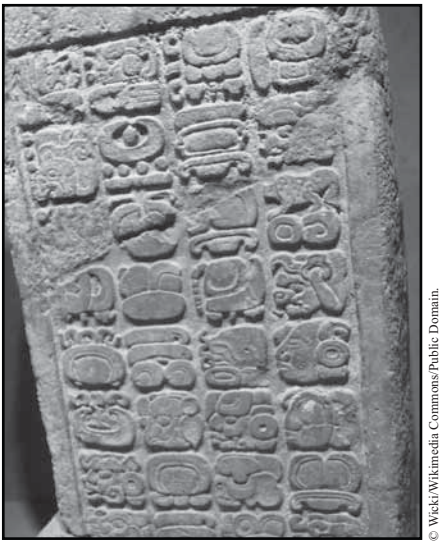
- Today, there are hundreds of written languages, but they all descended from only five original writing systems: Sumerian, Egyptian, Chinese, Harappan, and Maya. From that perspective, it's not difficult to understand why the Maya culturally outpaced their neighbors and advanced so far into the sciences.

- Only four Maya books have survived. We could have had many more to study, but the Spanish priests deemed Maya books pagan, and they were ordered burned. However, the priest who ordered them burned in the Yucatan also took the time to learn about Maya hieroglyphs. And it's with him that the history of their translation begins.

- A young Franciscan friar named Diego de Landa arrived in Yucatan in 1549 on a mission to convert the Maya to Christianity. He learned their language, their customs, and their religious practices. But in 1562, he burned books, idols, and even people. Landa's conversion tactics were so harsh that even the conquistadors were horrified and reported him to the Spanish crown. Landa was sent back to Spain to stand trial for his crimes. While in prison, he used his notes to write

the book *Relation of Things in Yucatan*. Within it, he included what he called a Maya alphabet.

- Landa's work did not resurface for centuries, and the Maya were forced to give up their writing system in favor of the European script. By 1600, no one knew how to read or write in Maya hieroglyphs. It was not until the Dresden Codex, one of the four surviving Maya books, was rediscovered in Europe that anyone studied the glyphs.



© Wicki/Wikimedia Commons/Public Domain.

Most of the corpus of Mayan hieroglyphic writing comes from stone monuments and painted ceramics.

J. Eric Thompson

- Printed copies of the Dresden Codex became available in 1848. By the late 1800s, scholars had deciphered the Maya calendar. With it, they discovered that the Maya were recording a vast number of dates, some of which were connected to astronomy. But it was not until the start of the 20th century that progress on the rest of the glyphs was made.

- In 1915, Sylvanus Morley initiated a plan to excavate Chichen Itza. Although Morley's project was delayed until the 1920s because of the Mexican Revolution, in the interim, he studied Maya hieroglyphs and became an expert in Maya calendrics. When his Chichen Itza project finally began, Morley hired a British man named J. Eric Thompson. Morley and Thompson studied the non-calendric portions of Maya script and concluded that they were logograms, not phonetic script symbols.

- Thompson went on to become the leading authority in Maya studies for the next five decades, often attacking anyone with ideas contrary to his own. But his incorrect theories about the nature of Maya script held the process of decipherment back, even while the keys to the code were being discovered by other scholars.

- Thompson wrote many books on Maya civilization, among them an entire catalog of Maya hieroglyphics. He painstakingly identified each glyph variant, and he put them in a corpus of Maya writing and assigned each one of them a T-number. That T-number system is still used by epigraphers today.

- In the 1940s, Thompson made the decision about which of the competing calendar correlations would be academically accepted. He chose the Goodman-Martinez-Thompson (GMT) correlation and anchored the Maya calendar to a start date of August 11, 3114 B.C. By the 1950s, Thompson had convinced his colleagues that there were no further codes to break in the Maya script and that they neither recorded history nor reflected the spoken word.

Proskouriakoff, Berlin, and Knorosov

- But changes were coming. Tatiana Proskouriakoff was a gifted artist who had joined Morley's team to create reconstruction drawings of Maya ruins. While working at the site of Piedras Negras in Guatemala, she discovered a repeating pattern in the long texts on stelae. Within each group, she identified glyphs that she believed represented birth, ascension to the throne, and death.

- Proskouriakoff had found historical content in Maya monuments. She published her findings in 1960, but Thompson rejected her work, dismissing her as a nonexpert. Proskouriakoff was inspired by the work of two other experts whose work had questioned Thompson's theories: Heinrich Berlin and Yuri Knorosov.

- While analyzing texts for many different Maya sites in the 1940s, Berlin noticed that many texts ended with a glyph that had the same

two symbols affixed. Berlin called them emblem glyphs, correctly identifying them as the names of cities.

- Yuri Knorosov, a scholar of Egyptian hieroglyphics, was the man who first broke the code of Maya hieroglyphics. A Russian soldier during World War II, Knorosov saved books from the Dresden national library during American bombing raids. One of the books he saved was a copy of the Dresden Codex. He survived the war, took home those books, and returned to his studies in Moscow.

- First, Knorosov translated Landa's book, and in it, he found Landa's alphabet. He compared that alphabet to the Dresden Codex to look for the same symbols. Then, Knorosov considered a hypothesis that Thompson had long ago rejected as impossible—that the hieroglyphs were in the same language that the Maya still speak today.

- That was the key. Using a Yucatec Maya dictionary, Knorosov tried to match Landa's sounds to glyphs next to identifiable animals in the Dresden Codex, and he found two significant examples—a dog and a turkey. Knorosov was able to use these examples to translate them into modern Yucatec Maya. His landmark paper was published in 1952; however, Thompson rejected Knorosov's work and forbade his students to even read it. Thompson continued pursuing his logogram theory.

- As more scholars became aware of Knorosov's approach, his work began to gain influence. But still, Thompson used his authority to suppress the true nature of Maya script; he continued to assert that the hieroglyphs were only symbols, not true writing.

The Palenque Round Table

- In 1973, the work of Berlin, Proskouriakoff, and Knorosov was pulled together at the First Palenque Round Table, and the code of Maya hieroglyphs was deciphered once and for all.

- The story began in the late 1960s, when Linda Schele was an art teacher and her husband, David, was an architect and an admirer of Maya architecture. During a trip to Yucatan to photograph the Maya ruins, they were diverted into Chiapas, and they landed in Palenque. There, Schele met Merle Greene Robertson, who was making rubbings of Palenque's art panels. Schele fell in love with Maya art and became interested in the glyphs. She and Robertson decided to hold a conference to try to decipher the glyphs.

- They called in scholars from around the world and met in the house of Moises Morales, Palenque's first tour guide. The group intended to put Knorosov's theories to the test. To sort out Palenque's dynastic sequence, they wrote the glyphs they thought were the names of kings on a chalkboard.

- Under King Pakal's glyph, they wrote "Lord Shield," because the glyph looked like a Maya war shield. Moises asked them to use the Maya name for "shield," *pakal*. There was another glyph that should have been Pakal's name, but it wasn't the shield symbol. It was made out of three symbols: pa, ka, and la. Together, they spelled Pakal.

- This was the revolutionary breakthrough at last. Excited, the international team worked feverishly through the rest of the night. Sometime in the morning hours, they had completely translated a tablet of 96 glyphs that recorded the dynastic sequence of four Palenque kings. The code had finally been cracked, and the keys to decipherment were known. Now, the work could begin at last.

A Logosyllabic Writing System

- Today, thanks to 100 years of scholarship, we can read more than 80 percent of the corpus of Maya hieroglyphs. Scholars are working on the rest with a set of crucial tools and rules for guidance.

- The first and most significant tool is the Maya syllabary, which is a chart of consonants and consonant-vowel combinations. Those are the sounds that each one of the glyphs makes.

- J. Eric Thompson wasn't completely wrong, however. Maya script also has logograms within it. For that reason, it is called a logosyllabic writing system. The Maya could alternate between logograms or phonetic spelling as they chose. Pakal's name from Palenque is a good example. It could be a shield symbol, or it could be three syllables: pa, ka, and la. Maya scribes could interchange these representations as they chose.

- Today, there are hundreds of epigraphers working on the Maya glyphs, and every new excavation provides a chance for more texts to be analyzed. The Maya syllabary continues to expand. The process is fascinating, and the field is accessible to everyone.

- Linda Schele created the Texas Maya Meetings to allow anyone to participate in the process of decipherment. She has stated that the next big discovery will not necessarily come from scholars but from someone with a sharp mind who looks at these puzzles with fresh eyes.

Suggested Reading

Coe, *Breaking the Maya Code*.

Coe and Van Stone, *Reading the Maya Glyphs*.

Harris and Stearns, *Understanding Maya Inscriptions*.

Landa, *Yucatan before and after the Conquest*.

Thompson, *Maya Hieroglyphic Writing*.

Questions to Consider

1. Why didn't Maya script spread out all over the Americas, as scripts in Europe and Asia did?

2. What could have been in all those books that Landa burned?

3. If Landa hadn't recorded his alphabet, do you think we still could have broken the Maya code?

Maya Astronomy and Building Orientations

Lecture 14

Archaeological evidence in Maya calendars, art, hieroglyphic texts, and temples indicates that the Maya were adept and gifted astronomers. This lecture will focus on the Maya's use of astronomy to align their buildings. We'll look at examples of how the Maya created architecture oriented to view the horizon based on celestial events and consider buildings that were designed to interact with the sunlight, creating patterns of light and shadow within the temples.

An Astronomy Primer

- Looking at the sun as it moves across the horizon throughout the year, we recognize four specific stations—in March, June, September, and December. They represent three solar positions.

- On June 21, the summer solstice, the sun rises at its northernmost point along the horizon. Then, every day, it moves closer toward the south. On September 21, the autumnal equinox, the sun rises due east and sets due west. Then, the sun continues marching south until December 21, which is winter solstice. *Solstice* means "standstill"—because the sun seems to be moving very slowly. Then, in December, it starts moving north, and on March 21, the spring equinox, the sun will again rise due east and set due west.

- The sun's zenith passage is that day when the sun is directly overhead into the sky's zenith point. This only happens twice a year and only in the tropics. And the precise day varies according to the latitude.

- Because most ancient people used horizon-based astronomy, latitude mattered a great deal. The farther north we go in latitude, the wider the angle between the summer and winter solstice. In Yucatan, the difference is about 50 degrees total; thus, if we are trying to see whether a building is aligned with the sun at solstice

at Yucatan, we are looking at 25 degrees off east. Orientations and latitude are linked.

El Caracol

- The most noteworthy observatory in the Maya world was El Caracol at Chichen Itza. It has numerous windows and doors aligned to look out at various points along the horizon. The building itself is not very symmetrical; its platform is not square, and its two staircases are not completely lined up. This is not bad engineering or sloppy construction, however. These parts of the building are positioned to view significant points along the horizon.

- The platform's odd angle points to the summer solstice sunrise. One of the staircases points to zenith passage in Chichen Itza. Another staircase is thought to be a possible Venus alignment to its northern excursion—which happens only once every 8 years.

- The windows of El Caracol are also astronomical tools. The viewer can use the edges of the windows to narrow the field of vision to view just 1 degree of the horizon. Some windows point to solar stations; other may show star stations. This is difficult to prove because of precession. The building has existed for hundreds of years, and every 72 years, the stars move about 1 degree.

E-Groups

- At Uxmal, the Terminal Classic city in Yucatan, there is a rare building orientation to Venus. The center doorway in the palace of the governor is the sighting point. When the viewer stands there and looks out on the horizon, he is looking right over a double-headed-jaguar throne on the plaza. Far out in the distance, there is a temple at Nopat, about 5 kilometers away. Right above that temple, the maximum southern excursion of Venus will rise—but only once every 8 years.

- Nopat existed before Uxmal; therefore, viewers in the palace of the governor at Uxmal used Nopat to see where Venus was. At the governor's palace were masks with a symbol for Venus under the eye.

- Although some buildings are simply oriented to a direction to see the rise or set of a celestial body, other kinds of buildings work in groups. The buildings that work in groups are called *E-Groups*. They consist of a long platform, with three building set on top. A fourth building is far away. When the viewer looks out from the far building, the other three buildings line up to touch the solstice and the equinoxes.

Hierophany

- The Maya devised another kind of astronomical orientation in buildings that were designed to capture sunlight in special ways. Consider the *hierophany*—which is a word created by religious scholar Mircea Eliade to mean the manifestation of the sacred in a normal phenomenon. Archaeoastronomy has adopted that term to refer to tricks of light and shadow in structures—that is, normal buildings exhibiting special qualities.

- The most famous example of a Maya hierophany is Chichen Itza's main pyramid, El Castillo. Every equinox, as the sun sets, the shadows from the terrace hit the balustrade of its staircase and look like a snake undulating down. At the bottom of the pyramid is a snake head.

© AT SZ56/Wikimedia Commons/Public Domain.

Every spring 50,000 people flock to Chichen Itza's main pyramid to see the snake hierophany, although the effect may be a coincidence.

- Another kind of hierophany was discovered by Felipe Chan Chi, a night guard at the site of Dzibilchaltun in Yucatan. He discovered something interesting that happens inside the temple itself.

- There are rays of light at the summer solstice that enter the north doorway of the building at an angle. Just as Chichen Itza's windows do, the doorway narrows the field of view and allows just a beam of light in. The light projects on the wall next to a window and lines right up on the window.

- It's kind of an interior, private hierophany. Only one line of light can be seen. It also happens at sunset and during the winter solstice.

Temple of the Sun

- A study of the Temple of the Sun at Palenque began by trying to confirm some of the published studies of astronomy at the site. In a 1976 publication, archaeoastronomer John Carlson noted that the Temple of the Sun was aligned to winter solstice. However, it was not perfectly aligned. The sun came in at an angle at sunrise.

- On June 21, the sun rose on the side of the Temple of the Cross. Days before, it was blocked by that temple, but on the solstice, light at dawn hit the very back corner of the temple perfectly. The building was clearly designed to mark summer solstice. Even a wall that was eventually put in as an addition to the temple had a little doorway so that light could still pass through. The builders also did something very interesting: They backed the outside column up by 10 centimeters. If they had not done that, this trick of light would not have worked.

- But that was not the only solar station in the temple. A similar effect was recorded at equinox. It happened right on time, but then it swept out of the room within 20 minutes. The Temple of the Sun recorded two solar events with hierophanies.

- Sure enough, at dawn on zenith passage (August 5) there was another effect. What's more, the sun came in perfectly straight and aligned on the day of nadir (the opposite of zenith passage), which happened on January 29 and November 9. Thus, the Temple of the Sun turns out to be an annual clock, which marks just about every

one of the solar stations. It's like an E-Group but within a single building. It is truly a Temple of the Sun.

Zenith Passage

- Archaeoastronomers have learned some remarkable facts about zenith passage and what it meant not only to the Maya but also to all of Mesoamerica. Zenith passage is different from any other solar station because its day is different depending on the latitude. Zenith passage will happen in most places in the tropics on two days a year. We believe that the Maya were recording zenith passage in their own cities, then comparing it to other cities' zenith passage.

- There are two ways to detect the day of zenith passage. One is with a sighting tube. A sighting tube has been found in Monte Alban and another in a cave in Xochicalco. Teotihuacan also has a cave that archaeologists believe to be a zenith passage tube. But none has been found in the Maya area so far.

- Scholars believe that one latitude was more important than the rest: 14.8 degrees. There, zenith passages divide the year in a special way—into 105 and 260 days. This can be interpreted as dividing the year into the sacred 260-day calendar and the 105 days that is the gestation period of corn.

- Teotihuacan almost certainly had an interest in zenith passage. Its rulers established the city of Alta Vista on the line of the tropics at 23.5 degrees. They also installed Copan's first dynastic king all the way down at that line at 15 degrees. Teotihuacan also had an odd city grid orientation, just over 15 degrees off cardinal directions. But sunset on the day of August 13 is exactly aligned to that 15 degrees, and that's the same August 13 that we see sunset zenith passage at Copan.

Precise Astronomical Calculations

- One of the most astonishing discoveries about ancient Maya astronomy is how accurately the Maya could calculate the length of

a solar year. There's a number that keeps showing up in the Maya inscriptions: 1,508 Haabs, or 550,420 days.

- A Haab is the Maya solar year of 365 days. It so happens that 1,508 Haab years is exactly 1,507 tropical years. The tropical year is the real passage of the sun. In modern days, a leap day accounts for the difference. On average, a year is 365.25 days, not 365. Thus, 1 tropical year equals 1.0007 Haabs.

- This means that the Maya calculation is 365.2420 days. The atomic clock says it's 365.2422 days. But the people who created that clock admit that it can be off by +/– 0.0005. In other words, we're not really sure who's more accurate—the atomic clock or the Maya.

- Scholars have been working to understand the full extent of Maya astronomy for 120 years now, and new discoveries are still being made. One of the richest sources of knowledge about Maya astronomy and mathematics is the subject of the next lecture: the Dresden Codex.

Suggested Reading

Aldana y Villalobos and Barnhart, eds., *Archaeoastronomy and the Maya*.

Aveni, *Sky Watchers of Ancient Mexico*.

———, ed., *Foundations of New World Cultural Astronomy*.

Freidel, Schele, and Parker, *Maya Cosmos*.

Malmstrom, *Cycles of the Sun, Mysteries of the Moon*.

Milbrath, *Star Gods of the Maya*.

Questions to Consider

1. If the Maya could calculate the tropical year so accurately, why didn't they create a leap year?

2. Why did the Maya associate Venus with warfare?

3. How did Maya engineers orient their temples so accurately?

The Dresden Codex

Lecture 15

A definitive source of ancient Maya astronomy and mathematics is the Dresden Codex. Today, only 15 Mesoamerican books remain that survived the elements and the book burnings. And of those, only four are Maya books: the Madrid Codex, Paris Codex, Grolier Codex, and Dresden Codex. A fifth codex may have been found in a museum in Prague, but the studies confirming its authenticity are still inconclusive. This lecture is about the most diverse of the codices, the Dresden Codex. As we conclude from studying the Venus pages, the Maya were not just dabbling in astronomy; they were masters of it.

Description of the Codex

- The Maya created codices using a paper made from tree bark that was invented about 300 A.D. They folded this bark into an accordion shape, or a fan fold. Its size was about that of an average Western book. A codex was painted on both sides, in full color with glyphs and images.

- The Dresden Codex was written in Yucatan, probably about the 12th century. Archaeologists believe it was copied repeatedly for generations, starting sometime about 600. It has 78 pages, a cover, and a back page; the interior pages are in readable shape.

- Scholars speculate that the Dresden Codex was sent by Cortes to King Charles I. Inside it are about 350 unique signs—250 of which have been confidently deciphered. It was the very first of the Maya books discovered in Europe, and it was housed in a national library in Dresden.

Venus Pages

- The most significant section of the Dresden Codex contains the Venus pages. The five pages include numerous dates grouped in individual Venus cycles. A Venus cycle is 584 days—the synodic

period of Venus. A synodic period is the time that a celestial body takes, from a viewer's perspective, to return to the same place in the sky.

- Interestingly, there's a perfect conjunction between the sun and Venus at five Venus cycles. It just so happens that five Venus cycles of 584 days equals exactly eight periods of 365 days on the Haab calendar—2,920. What's more, the numbers 365 and 584 added together equal 949—the foundation number of the enigmatic Long Count calendar. Numerology was a subject much beloved by the Maya.

© Photos.com/Thinkstock.

There were once probably hundreds of thousands of books and documents moving around Mesoamerica, but today, we have only four Maya books, including the Dresden Codex.

- Each of the five pages is divided into the same five sections. On the left side are numbers, dates, and pieces of text. On the right side are text and three images. The sections include a table of Venus stations, its days, and the deities in reign during those days.

- On the left side, a list of 260-day names runs through the table. The text concerns Haab dates and the arrival of Venus. According to the text, Venus arrives to the north, west, south, and east on the four columns. On the bottom sections of that left side are two different runs of Venus; one continually repeats the cycle of 584, broken into four phases; another is a continuous run through those five pages,

each time adding 584 until a total of 2,920 days is reached—the complete Venus cycle.

- Those four stations of Venus are as morning star, its first disappearance, as evening star, and its second disappearance. Those disappearances are when Venus is in front of the sun or on the other side of the sun. Strangely, though, the Maya estimates are greatly inaccurate. Stranger still, the Sumerians—the only other culture who recognized the 5:8 ratio between the sun and Venus—also recorded the same incorrect numbers. To this day, no one knows the source of the error.

A Numerology Game

- Regardless of the inaccurate station day counts, the Maya accurately calculated the total Venus cycle at 584 days. In the preface to the Dresden Venus pages, scholars have discovered fascinating aspects of Maya astronomy and numerology.

- The Venus key on page 24 has a left and right section like the other ones. On the left side, there is text about Venus and a start date for the table at the bottom, which contains three columns of dates. Those are very significant. The first column reads 6-2-0, or 2,200 days. It then has a ring number that basically directs readers to go back to the creation date in 3114 B.C. The first column actually starts before the first creation.

- The second column directs readers go from that date before creation 9-9-16-0 days into the future in the Long Count. That brings us up to 9-9-9-16-0, or roughly 3,752 years later. Clearly, this is a numerology game. In fact, 9-9-9-16-0 is February 9, 623. That's one of the pieces of proof that the Dresden Codex was originally written centuries before the existing copy.

Almanacs, or Prognostication Pages

- The first 23 pages of the Dresden Codex, called the *prognostication pages*, are not directly associated with astronomy. Essentially a collection of 52 almanacs, these pages contain significant

mathematical elements and information about divination, the timing of future events, and prediction of the future.

- For the most part, each almanac follows a standard reading order. On the left side, there's a column of Tzolk'in days with one number associated with that column. Glyphs across the top are in groups of four blocks each. Underneath each one of those four blocks is the image of a god or an animal.

- Each section of an almanac includes those four blocks and an image in combination. That's the prognostication or the divination. Each almanac covers a different subject, such as planting, weaving, or the best times to make sacrifices. Each section with text and image indicates whether it's a good day or a bad day for a certain activity. Archaeologists speculate that Maya priests used these almanacs to predict good and bad times. That's where the Tzolk'in dates come in.

- Within the almanacs, there is a pattern of groups of four and five day names. There were four possible combinations of five days, and five possible combinations of four days. After the top row of math is computed, then the rest of the page would fall into place. When the groups of four and five were put together in a single grid, they interlocked—one was going horizontal and one was going vertical. The almanacs indeed had a hidden order.

Lunar Pages

- In the Dresden Codex, the seven pages of lunar tables indicate increments of Maya lunations. The lunar pages are designed to track eclipses; their images include a sun that is half black, a sun that is half white, and the moon goddess hanging dead from a sky band.

- On one row of the lunar pages, day numbers accumulate, and on the bottom row, they repeat specific increments: 177, 178, and, sometimes, 148 days. The numbers 177 and 178 are six Maya lunations of either 29 or 30 days each. The number 148 is five Maya lunations. Those are the possible times for eclipses. What the

lunar pages reveal is that the Maya figured out the concept of lunar nodes—when the earth, moon, and sun line up to create eclipses.

Understanding the Precession of the Equinoxes

- Among the latest and most exciting discoveries in the Dresden Codex are the serpent pages. They consist of numbers entwined within the curving body of a snake. The numbers are very long and total more than 33,000 years recorded.

- Archaeologist Michael Grofe has a compelling theory. He notes that the total is a distance number between October 3, 915 A.D., and June 22, 33,146 B.C. He also noticed that it is an even multiple of 365.2565… [with additional decimal approximations]. That is a sidereal year, not the tropical year of 365.2422 days. A sidereal year is one in which the sun is in the constellations, not along the horizon.

- Year after year, the sun's position in relation to the backdrop of the stars slowly shifts. This is called *precession of the equinoxes*. Earth wobbles on its axis very slowly and creates a cycle of some 26,000 years during which the stars, as a backdrop to the sun and the planets, are slowly shifting. Figuring that out was the height of genius in ancient Maya astronomy.

- Grofe used an astronomy program to depict the night sky in those two far-separated dates. When he looked at it, the sun was in the exact same constellation and the same place in both times—right in the middle of Libra. The Maya had adjusted for precession and were calculating using a sidereal year, a very accurate one. They could predict where the sun was 33,000 years earlier.

- Grofe's discovery was published in 2007, and since then, he's used his new methodology to find many more examples. He's found sidereal-year calculations in multiple Classic stelae, some of which date back to the 400s. Research like Grofe's work with the serpent numbers proves what archaeologists have known for some time: that the Maya loved to hide profound knowledge in the expression of large numbers.

Profound Mysteries within Large Numbers

- Studying the Venus pages, anthropologist Floyd Lounsbury discovered a Maya super-number: the distance number 9-9-16-0-0, which comes out to 1,366,560 days. On the surface, it is simply a number linking two dates, but Lounsbury discovered that it is also the lowest common multiple of nearly every cycle the Maya ever tracked. Within that single number, we find even increments of the Tzolk'in, Haab, *tuns*, Venus, Mercury, Mars, and combinations thereof. All the cycles the Maya observed were even multiples of that one number.

- It almost seems as if it were a game the Maya priests were playing—hiding profound concepts between the lines. If just one number hid that much information from us until Lounsbury's observation, what else is hiding in the Dresden Codex?

Suggested Reading

Aldana y Villalobos and Barnhart, eds., *Archaeoastronomy and the Maya*.

Aveni, *Sky Watchers of Ancient Mexico*.

———, ed., *Foundations of New World Cultural Astronomy*.

Barnhart, "The First Twenty Three Pages of the Dresden Codex."

Milbrath, *Star Gods of the Maya*.

Questions to Consider

1. Why did Maya astronomers sometimes hide their knowledge in simple numbers without explanation? Why not spell it out?

2. Whose book was the Dresden Codex? What kind of person needed that kind of information?

3. Do you believe all the claims of Maya astronomical accuracy, or do you think some of them are exaggerated?

Palenque—Jewel in the West

Lecture 16

One Maya city stood above the rest in its sophistication of architecture, elegance of hieroglyphic calligraphy, and depth of astronomical knowledge: Palenque. Palenque has been excavated for more than 100 years, and archaeologists are still discovering astonishing artifacts and insights into the Maya. In this lecture, we'll trace the history and dynastic order of Palenque, which ended in the sudden collapse of the city.

Tomb of Pakal

- In 1952, the tomb of Pakal was discovered at Palenque, forever changing its status from a minor place ruins with interesting art and architecture to a world-renowned archaeological site. The man who accomplished this was Alberto Ruz, who worked on the Temple of the Inscriptions. Excavating its tomb, Ruz discovered a large vaulted chamber of stone. Along the walls were nine stucco figures. The sarcophagus in the middle was massive, weighing 20 tons. On the outside were elaborate carvings and glyphs, and inside was a richly adorned body.

- As significant as the tomb was, the way it was placed inside the temple was equally important. The temple was planned as a funerary temple from the start. This implied that the Maya kings were considered god-kings, and their people built places to inter them before they died. Because the code of Maya hieroglyphics had not yet been broken in 1952, Ruz did not know who this person was or even if he was a king.

- Then, in 1973, the hieroglyphic code was broken at Palenque, and archaeologists discovered that the king's name was Pakal. He ruled for 68 years and died at the age of 80.

Early History of Palenque

- As in many Classic Maya sites, Palenque's dynasty started at the dawn of the ninth *bak'tun*. The dynastic founder at Palenque was a king named Quetzal Jaguar, crowned in 431 A.D. He was crowned very close to the same time that Copan's first king was crowned, and both of them were allies of Tikal.

- The first king of Palenque did not seem to rule from Palenque's main ceremonial plaza; instead, he ruled from Teotihuacan. But he must have suffered some sad fate because he reigned for only four years. A historical tablet mentions him and other kings, but that same tablet also refers to the mythical founders of Palenque, a triad of gods.

- Archaeologists do not have much information about the next four kings of Palenque. We know from retrospective texts that they ruled a rather modest-sized city. We know that the fourth king moved the city center from Teotihuacan to the current city center called Lakam Ha. The fifth ruler died in 565. Caracol sacked Palenque in 562, under the authority of powerful Calakmul. In April 599, Calakmul attacked Palenque and destroyed its idols.

- It is rare for a Maya city's texts to discuss misfortunes. Archaeologists know about these events only because Pakal recounts them as part of his story of renewal a generation later. Pakal wrote in his text that in 611, "Gone were the king and the queen. The rituals were not performed." It is unclear, however, why the powerful Calakmul would march an army across the entire Maya world to attack tiny Palenque.

Massive Construction Programs

- Lady Sak K'uk', whose name means "White Quetzal Bird," arrived in Palenque in 612 with a nine-year-old boy. That boy knew he has been brought there to be king. And he was living under the eminent threat of yet another attack from Calakmul. But it was his duty to lead.

- And lead he did. Taking the throne at only 12 years old, Pakal becomes Palenque's greatest king. Over the next 68 years, he took a ransacked city and turned it into a place respected across the Maya world. History books call him Pakal the Great. This king had three main tasks before him: (1) Rebuild the city, (2) rebuild the broken Palenque dynasty, and (3) restore Palenque to its regional power.

© Simon Burchell/Wikimedia Commons/CC BY-SA 2.0.

Pakal was archaeology's first ever known Maya king; 60 years after his tomb was discovered, it remains unrivaled in grandeur.

- Pakal's first building was both an architectural benchmark and an interesting clue to Palenque's origins. Called the Olvidado, or "The Forgotten," the structure was dedicated to Pakal's parents. Pakal did not build it in the current city center, Lakam Ha; instead, he built it 1 kilometer to the west. That section of the city is ancient Teotihuacan, where the first kings arose. Pakal most likely placed the building there to demonstrate that he was reestablishing his ties to the founders.

- Pakal transformed Palenque through massive construction programs. He built an area called the North Group next to the Temple of the Count. He built Temple X, as well as a new ball court. His largest construction effort was the plaza that held up all those structures—built on a hillside with almost 10 meters of fill.

Palenque's Greatest King

- Pakal's greatest architectural achievement was Palenque's palace. Its older version became the basement—a kind of symbolic underworld. The upper section was the centerpiece of Pakal's reign. The coronation room was quite special. All the other buildings of the palace were red, but the coronation room was white—perhaps to honor the king's mother, White Quetzal Bird.

- Pakal constructed House C as his reception hall. An east gallery contained a row of portraits—actually heads in stucco extending from the wall with medallions around them. Remember, the Maya believed in communicating with their ancestors.

- In a masterful piece of political/religious propaganda, Pakal asserted that he was superior to the next king in succession. He claimed to be the reincarnation of Palenque's mythic founder, the first god of the Palenque triad. In his texts, Pakal tied his own birth to this god using Venus cycles. Then he connected his mother to the goddess mother of the triad. When Pakal died at the grand age of 80, he had fully restored Palenque and its dynasty.

The Cross Group and the Conjunction

- Pakal's firstborn son was named Kan B'alam II, after Palenque's seventh king. Although he was named heir designate at the age of 6, he was 48 before he ascended the throne. Because of dynastic succession problems, most likely Pakal's goal was to make his son a beloved public figure. Kan B'alam received excellent training in astronomy, mathematics, engineering, architecture, art, literature, and philosophy—and, of course, warfare and combat. He was to be the final triumph of Pakal's reign, his legacy incarnate.

- Kan B'alam faced an enemy, a city called Tonina, which was an ally of Calakmul. At the same time that Kan B'alam led campaigns against Tonina, he built a grand new temple complex back home. Called the Cross Group, it contained the Temple of the Sun, Temple of the Cross, and Temple of the Foliated Cross.

- In addition to Maya gods, each temple in the Cross Group had a theme. In the Temple of the Sun, it was warfare and astronomy. In the Temple of the Cross, it was the lineage of the city. In the Temple of the Foliated Cross, it was fertility and maize. All three temples were inaugurated together in January 692. Descriptive texts, however, refer to another date, July 23, 690.
    - The reason for this reference is that a rare conjunction of planets took place on that evening in 690. Mars, Jupiter, and Saturn were all in a very tight conjunction, something that would happen only about every 500 years. At that same time, Palenque's rulers were introducing the 819 cycle—and they did it using the Cross Group. The 819 cycle was all about Jupiter and Saturn being finally incorporated into the calendar.

    - Kan B'alam had wanted to show off by inaugurating the temples in 690, but his contractors let him down. Instead of 690, they couldn't complete the temples until 692.

The Last Great King

- In 695, Palenque was at its zenith, with a population of about 10,000 people. And then, in 704, Kan B'alam died at the age of 67. Archaeologists do not have an explanation for how he died; no tomb has been found; and no future king ever mentions him in a text.

- Kan B'alam left no heirs, and the throne fell to his younger brother, K'an Joy Chitam, who was not prepared to rule Palenque and suffered the consequences. Six years into his reign, he was captured and displayed at Tonina, tied and humbled. He died in 721. His nephew Ahkal Mo'Nahb, the grandson of Pakal, then ascended the throne. Most likely the son of Pakal's third son, Ahkal Mo'Nahb was Palenque's last great king.

Palenque Falls Silent

- In 2000, an archaeological team excavated one of Ahkal Mo'Nahb's temples and determined that Temple XIX was a failed architectural experiment. Instead of putting the columns on the outside as on

most buildings, the constructors tried to put them on the inside. But it didn't work. The roof was too heavy and the building collapsed.

- A central pillar in the ruined building had an image of Ahkal Mo'Nahb on one side, and on the other side was someone named U Pakal K'inich. He may have been the interregnum ruler during that 10-year period when K'an Joy Chitam was alive but captured by Tonina.

- A bench found in 2004 strengthens that argument. In Temple XXI, we also see Ahkal Mo'Nahb on one side and U Pakal K'inich on the other. However, in this illustration, Pakal is standing between them and handing his bloodletter to Ahkal Mo'Nahb. It's as if he is saying he has decided who should be king, and a peaceful transfer of power was made.

- Our knowledge of Palenque's last king comes from a single incised pot found in a grave in an outer neighborhood. He apparently was crowned in 799. Although Tonina survived until about 909, Palenque fell silent right after this king.

- What's more, in excavating the massive Temple XX, archaeologists found something odd and very telling. The temple's exterior was only halfway through a remodeling phase; it was stripped of half its terraces. It's as if the workers simply dropped their tools and walked away.

Suggested Reading

Barnhart, *The Palenque Mapping Project*.

Martin and Grube, *Chronicle of the Maya Kings and Queens*.

Robertson, *The Sculpture of Palenque*.

Schele and Miller, *Blood of Kings*.

Schele and Friedel, *A Forest of Kings*.

Schele and Mathews, *The Code of Kings*.

Stuart and Stuart, *Palenque*.

Questions to Consider

1. Considering we know that Pakal was using propaganda to secure his political position, what else in Maya written history might be fabrications?

2. How did Kan B'alam know about Jupiter and Saturn's retrograde motion?

3. Who was U Kit K'an, the king recorded in 986 B.C.? Was he real? Was he Olmec?

Sacred Geometry in Art and Architecture

Lecture 17

In the opening lines of the *Popol Vuh* is a description of how the gods made the four corners and the four sides and how they halved the cord and stretched it up into the sky and down to the earth. In fact, that is the formula for creating the golden mean. In their creation document, the Maya are talking about geometry. In this lecture, we'll explore the golden mean and other dynamic proportions that form the basis of Maya art and architecture, as well as art from other ancient civilizations. From the spiral of the universe to the outline of a snowflake, these dynamic proportions are used to shape the Maya world.

Defining *Sacred Geometry*

- Maya art and architecture are based on a set of standard dynamic proportions that are part of what is called *sacred geometry*. This term refers to geometric proportions that are linked to religious ideas.

- The Egyptians used these geometric proportions in building the Pyramids of Giza, the largest edifices on earth, which were constructed around 2560 B.C. These massive structures are based on the golden mean, or the phi ratio, which is the ratio of the slope to half the base. The Greeks also used the golden mean in building the Parthenon. Archaeologists have found the same set of proportions in Maya art and architecture.

- In fact, the proportions of sacred geometry are the same ones nature used to structure the cosmos. We see sacred geometry in the spirals of shells and of galaxies, in the way crystals and plants grow, and even in weather patterns.

- The Maya had a keen interest in harmonizing with nature. And with the same meticulous methodologies they used in astronomy, they discovered the shapes used by their gods to create their world. That fact was hidden from scholars for many

years. The discovery was made possible by focusing not on numbers but on proportions. Finding the sacred proportions in art and architecture, called *dynamic proportions*, is the key to understanding Maya geometry.

Dynamic Proportions

- The most common proportion that nature uses is the golden mean, which is a ratio of 1:1.618…, an irrational proportion. At its smallest, this ratio is seen in the spiral of a shell; its largest manifestation is seen in the spiral of our galaxy According to the golden mean, a rectangle has a width of 1 and a length of 1.618….

- Greek philosopher and mathematician Pythagoras figured out nature's irrational proportions, and he used them to design aesthetically pleasing Greek temples. But he had to keep irrational proportions a secret because infinity was heresy.

- There are a number of other proportions found in nature in addition to the golden mean—mainly, the square roots of 2, 3, and 5. Those are, in geometric forms, the square, the triangle, and the pentagon, which form the basis for all other shapes. The square roots of 2, 3, and 5 are like the primary colors of geometry.

- The square root of 2 is also known as the square. A square has four equal sides. If each side is 1, then the diagonal is 1.414…. Therefore, 1.414… is the square root of 2.

- Imagine using a compass in geometry class. If we take the diagonal and swing the arc down to the base, a rectangle is created out of that original square. And when we take the diagonal of that new rectangle, we get the square root of 3, or 1.732…, another irrational proportion. If we swing the arc again and make another rectangle, that forms the square root of 4. But if we take our square-root-of-3 rectangle and divide it into three, it forms three square roots of 3. That's why it's called a dynamic proportion.

The Golden Mean

- The same principle applies up the chain. The next diagonal is simply 2, which is the square root of 4. It's a rectangle of double squares. But the diagonal of the square root of 5 is 2.236…, which is mathematically related back to the golden mean.

- Imagine that we go back to our original square, put a compass at the center point to the base, and bring it up to the top-right corner. Then, we swing the arc out to one side. We then go over to the other side and swing out again. If we put those two extra spaces on our original square, we've created a square-root-of-5 rectangle.

- But just one half of that new rectangle, consisting of the square and then the arc out to one side, is the golden mean. The square root of 5, the square, and the golden mean are all connected.

Maya Geometry

- Archaeologists know about Maya geometry thanks to the work of Christopher Powell, a student of Neolithic archaeology. Although the Maya worked with astronomy, engineering, and mathematics, they had no geometry, no known unit of measurement. But Powell argued that Maya geometry was not about numbers; it was about proportion—dividing lengths and widths of rectangles. He obtained maps and architectural drawings of temples at Chichen Itza, and he began measuring the lengths and widths of rectangular buildings.

- He found patterns of repeating proportions: the square root of 2 (1.414…), the square root of 3, and the square root of 5. He found numerous proportions of 1:1.618…, the golden mean.

- Powell found the most elegant examples of dynamic proportions in the ruins of the Cross Group in Palenque. In the Cross Group, each one of the temples looks the same from the outside, but they are different sizes, with different proportions.

The Cross Group

- The Temple of the Cross, the tallest and largest temple, showcases the golden mean and the square root of 3. On the outside, it is based on the golden mean. The inside dimensions form a square root of 3. The back rooms are both golden mean rectangles. The shrine on the sides of the chambers also uses the golden mean. The front door is based on the square root of 2. The inner shrines are square roots of 4. The geometry of the Temple of the Cross appears not just in its plan but in profile, as well.

- The Temple of the Sun is the smallest but the best-preserved temple in the Cross Group. Its proportions match the Pythagorean 3:4:5 rectangle. Its three front doors and roof look just like those of the other temples. Though smaller, its doorways have the same proportions as the Temple of the Cross—that is, 1:1.414…. The back corners are also based on the golden mean. The exterior proportion is where we find the 3:4:5 rectangle. The builders

© AlejandroLinaresGarcia/Wikimedia Commons/CC BY-SA 2.5.

Kan B'alam showcased geometry in the Cross Group temples at Palenque.

managed to put a 3:4:5 rectangle on the exterior and a square-root-of-2 rectangle on the inside.

- The front profile of the Temple of the Sun is a trick of perspective. If we look from the columns to the top of the roof, we are looking at a square-root-of-2 rectangle. But if we move our eyes up to the top of the cornice, it becomes a 1:1.618… rectangle. And if that is a golden mean rectangle, from that point to the floor is 1:2.618…, which is the golden mean squared. The golden mean squared is the same as the golden mean + 1—a quality that makes it a magical number.

- Dynamic proportions are everywhere on these buildings—and they are derived from nature. That is the reason they are so beautiful. Psychological studies have demonstrated that people will choose these natural rectangles over random rectangles.

- The front doorway of the Temple of the Foliated Cross is 1:1.414…, just like the other temples. Its back corner rooms are also built according to the golden mean. However, the back shrine is surrounded in square roots of 4. The exterior is actually 1:1.414….

- Were it not for the other two temples and their proportions, the interior of the Temple of the Foliated Cross would be difficult to reconstruct. The interior consists of two rectangles joined together. Each of them is 1 raised to the square root of the golden mean. And the diagonals of both are 1.618…. It's a masterpiece of proportion.

Nearly Perfect

- The sacred geometry is not found everywhere in the Cross Group, however. Neither the temple bases nor the plazas have sacred geometry; the platform is completely asymmetrical. Powell explains this by observing that nature possesses both chaos and order.

- There are many other examples of sacred geometry in art and architecture across the Maya world. Powell has found a number of examples he calls near-perfect formulas. For example, a square-

root-of-2 rectangle and a square-root-of-3 rectangle joined together make a square-root-of-4 rectangle accurate to 0.0082. A square-root-of-3 rectangle and a square-root-of-4 rectangle together create a square-root-of-5 rectangle accurate to 0.0040.

- These near-perfect formulas allowed the Maya to create temples that combined sacred proportions in elegant ways that the Greeks would never consider. The Greeks were using numbers and units. The Maya were using cords, not numbers. The near-perfect variations would be undetectable to the human eye. This is a crucial observation. The Maya were not using math; they were not using units of measure. They achieved the same goal as other ancient cultures but from a totally different perspective.

- Nearly every page of the Dresden Codex and Madrid Codex is subdivided in sacred proportions; the codices have many square and square-root-of-2 combination pages. To use another noteworthy example of Maya art, consider the sarcophagus lid on the tomb of Pakal. Four square-root-of-3 rectangles fit together on top of the lid. Where they all meet is the base of the tree on the scene and the location of Pakal's hands. We are seeing the hidden geometry within the art.

Suggested Reading

Powell, *The Shapes of Sacred Space*.

Questions to Consider

1. Do you think the Maya got their proportions from nature, or could the use of a measuring cord somehow produce them without that knowledge?

2. Could Maya society have functioned without a standard unit of measure?

3. How does modern technology endanger these kinds of ancient beliefs and traditions?

Illuminating Works of Maya Art

Lecture 18

Classic period Maya artists created magnificent works in many mediums. Those works not only demonstrate their expertise as artists but also reveal significant cultural clues to Maya religion, social organization, and everyday life. In this lecture, we will discover the Maya through their art.

Images of Bloodletting at Yaxchilan

- Yaxchilan is on the Usumacinta River on the border between Mexico and Guatemala. The Maya city was a Calakmul ally from the start, and it was an enemy of both Tikal and Palenque. At the site of Yaxchilan are the monuments of two powerful kings, Shield Jaguar and Bird Jaguar. Bird Jaguar was crowned in 752, at the very end of the Late Classic period. He was one of Yaxchilan's last kings, and most of what we see at Yaxchilan today is the work of Bird Jaguar.

- The monuments show Bird Jaguar and others in the act of bloodletting. The practice of bloodletting was central to Maya life; it was the act that gave the rulers the right to reign. Auto-sacrifice in the form of bloodletting was the most reverent form of sacrifice in Mesoamerica. The Yaxchilan images illustrate the power of this act.

- Shield Jaguar—Bird Jaguar's father—built a temple to his first wife; Temple 23 at Yaxchilan is solely about her. The lintels above each doorway show a sequence of events related to her bloodletting. They are among the most beautiful of all Maya art.

- There are three scenes in the lintels: the bloodletting, its result, and its purpose. Lintel 24 shows the lady performing a bloodletting, pulling a thorny rope through her tongue. Below her is a bowl with paper in it, and the blood is dripping out of her mouth into that paper. Shield Jaguar is holding a torch above her.

- Lintel 25 shows the conjuring. The lady is alone, she has blood on her chin, and the bloody paper in the bowl is burning. As the smoke rises, it turns into a giant snake—Och Chan, or the vision serpent. Out of the mouth of the snake emerges an ancestor with a spear and shield in his hand. The lady has obviously conjured him to give her city help in war. Lintel 26 shows the wife preparing her husband for battle.

Fresco Murals at Bonampak

- Yaxchilan is not the only place where we find depictions of women in the act of bloodletting. Another example comes from Yaxchilan's nearby neighbor and ally, Bonampak. Although Bonampak is not particularly large or impressive, the site is home to the most extraordinary painted murals in the entire Maya world.

- The murals at Bonampak were commissioned by King Chan Muan II in 790. A continuous narrative moves from room to room, and

© Elelicht/Wikimedia Commons/CC BY-SA 3.0.

The Bonampak murals are found in a temple with three separate rooms, all of which have fresco paintings around their walls.

the king is featured at the center of all the murals. No other single source tells us so much about life in a Maya court.

- In Room 1, a young boy—the heir—is held up. The glyphs explain that this is an heir designation ceremony for this little boy. On the opposite side of Room 1 is a procession of musicians with horns, drums, and maracas and dancers wearing fantastic costumes. It's an astonishing view of court life and the pageantry that took place within it.

- Room 2 depicts a battle, but interestingly, no one is being killed. The goal is to capture prisoners. The battle is on the back wall. On the front wall above the doorway is the aftermath—the presentation of the captives. Chan Muan is standing in the middle, receiving them.

- Room 3 illustrates the victory celebration. The king dances in costume with all his lords. The costumes include bird wings and headdresses made of beautiful green quetzal feathers. They are dancing on the temple steps; other scenes show the entire court dancing. These illustrations indicate that temples were not only places to revere the gods; they were also performance platforms.

The Tomb of Pakal

- For the most extraordinary examples of carved stone, we return to the site of Palenque and descend into the tomb of the great Lord Pakal. The sarcophagus lid on the tomb of Pakal may be the single most famous piece of Maya art. It is a marvel—and utterly compelling from an artistic standpoint.

- The sarcophagus lid tells us much about the Maya conception of death. We see Pakal falling into the underworld, with the world tree behind him. The skeletal maws of the underworld are opening around him—this is the moment of his death. Pakal is wearing a jade net skirt, which is the attire of the Maize God who died and was resurrected to ascend into the heavens. The concept of a Maya

king ascending to heaven after death is another one of the keys to the right to rulership.

- The object on which Pakal is sitting is a large bloodletting bowl, with stingray spines, shells, and flowers in it. Also displayed is a Maya glyph that means "death." On the bowl itself is a sun symbol, and at the bottom is a lower jawbone, which represents the setting sun. Pakal is the sacrifice in this symbolic scene.

- The objects curling around Pakal are the skeletal jaws of the underworld. Depicted on the branches of the world tree is a cross. Some have interpreted this as a correlation to Christianity, but actually, it represents the four directions and up and down. The Maya recognized the cardinal directions but also viewed up and down as directions.

The Tablet of the Cross

- The same sort of imagery can be found in the Cross Group. On the Tablet of the Cross, we see a tree in the center and the bowl and the stingray spines at the base. At the top of the tree is 7 Macaw, identifying that tree as the world tree—a *Popol Vuh* connection.

- Easily overlooked is the two-headed snake hanging across the tree. This is Och Chan, the conduit between the two worlds. Gods and ancestors emerge from its mouth. Maya lords were represented holding the serpent bar; this image represents the lord as the tree and the serpent bar as the sun going across it. When Maya kings hold the serpent bar across their chests, they are demonstrating that they are the connection among the earth, the heavens, and the underworld below.

- The illustration on the lid of Pakal's sarcophagus is deeply significant, not only because it is a magnificent piece of Maya art, but also because it ties together our understanding of the role of the Maya king and the *Popol Vuh*. At his death, Pakal is like the Maize God. He goes down into Xibalba, then up into the sky. The world

tree is the path of the dead—it is the Milky Way that will bring him up into the sky, as well.

Maya Ceramics

- Painted ceramics display a much wider variety of topics than stone carvings, but many of them are downright inscrutable. Looking at the entire corpus of Maya ceramics, one can identify a number of different themes—stories that are painted again and again with varying levels of detail. Most likely, many of them are lost tales or myths that are no longer remembered. They may have been described in Maya books, but most of those are gone.

- A curious image is a procession of animals sitting on their hind legs, holding bowls filled with human body parts, partaking in some sort of feast. This may be a connection to the *Popol Vuh*, an illustration of that moment at the end of the third creation when the wood men were cruel to the animals and the animals ate the men.

- Another theme repeated in Maya ceramics is one in which an old man comes out of the vision serpent to tweak the naked breast of the moon goddess. We know the moon goddess is connected to healing, and the old man seems to intrude on that important business of hers.

The Artist's Signature

- Many images from Maya ceramics display simple but important insights into Maya life and customs. Because most ceramics were commissioned by Maya lords to depict life in their courts and cities, they can provide a window into the lives of both ordinary citizens and kings.

- Simple ways of life are portrayed on Maya ceramic images, and we can glean information about day-to-day details, such as the fact that the Maya topped their beds and their books with jaguar pelts and wrote in books with ink pens. The images show beautiful clothing and jewelry for women and scenes of women hard at work grinding corn. We see men sitting and smoking cigars.

- A ceramic face from the site of Naranjo shows something remarkable: the name of its artist. We learn in the text that the artist is also the king's brother-in-law, which means that artists were actually nobles. Increasingly, archaeologists are finding artists' signatures that were previously overlooked. The signatures are not easily located; just as on European art, they were not the focus of the work.

- The search for artists' signatures is one of the most exciting and illuminating aspects of Maya studies today. Such cities as Yaxchilan sent their artists abroad, allowing the artists to achieve a wider acclaim than at just their own courts. Someday we may discover the name of a Maya Michelangelo and properly add it to the list of world-renowned artists.

Suggested Reading

Miller, *The Art of Mesoamerica from Olmec to Aztec*.

Schele and Miller, *Blood of Kings*.

Schele and Friedel, *A Forest of Kings*.

Questions to Consider

1. So much of Maya art is the same stylistically, yet the Maya world was a collection of independent city-states. How did Maya artists communicate?

2. What percentage of Maya art do you think was made out of perishable materials, such as wood, feathers, and cotton, and is now long lost?

3. How would you say Classic Maya art compares to European art of the same time period, around 300 to 900 A.D.?

Copan—Jungle Dynasty of the East

Lecture 19

At the eastern edge of the Classic period Maya world is the city of Copan, one of the four Maya directional capitals. Copan was at the forefront of Maya achievements and influenced the rest of the Maya world. Located on the border of Honduras and Guatemala, Copan is as beautiful as it is remote. Fortunately for scholars and students of the Maya, there have been more than 100 years of near-continuous archaeology at the site of Copan. In this lecture, we'll explore Copan's archaeological history and dynastic succession and examine some of its most celebrated works of art.

Teotihuacan Establishes Copan

- Archaeologists have evidence of people farming in the Copan Valley as early as 1400 B.C. By 1000 B.C., the inhabitants were building homes out of stone. A burial site has been found dating to 900 B.C., perhaps of Olmec influence. About a century before the turn of the 1st millennium, there was a rise in population and evidence of enhanced social organization.

- Farmers began using intensive agriculture by 100 B.C. in Copan, digging irrigation canals and draining swamps for water. A king named Foliated Ahau was reigning in Copan by 159 A.D. That same date is mentioned at the site of Pusilha in Belize, which was a Copan ally.

- Copan may have been established because of its special latitude—at 14.8 degrees, where the zenith passage divides the year into 105 days and 260 days. Teotihuacan was keenly interested in the zenith passage; its people were in Tikal and Kaminaljuyu in the 300s, and their expansion ended at the site of Copan. Perhaps they were trying to establish the symbolic solar boundaries of the Teotihuacan Empire.

- Their reasons for expanding into Copan may be obscure, but the fact that Teotihuacan was directly involved in the establishment

of Copan's royal dynasty is undeniable. Images of the founder of Copan, Yax K'uk' Mo', show him dressed as a Teotihuacan warrior.

Copan's Multilayered Acropolis

- The tomb of Yax K'uk' Mo' would not have been discovered were it not for the nature of Copan's acropolis. King after king built his court on top of the last, packing the former with dark-brown clay. As the layers are peeled away, the city's history is revealed. The structure presents an ideal archaeological opportunity; today, there are 5 kilometers of archaeological tunnels throughout that brown clay.

© DuendeThumb/Wikimedia Commons/CC BY-SA 3.0.

The goggle eyes on the carved image of Yax K'uk' Mo' are clearly a Teotihuacan influence.

- Temple 16 in the acropolis was named for the founder of Copan, Yax K'uk' Mo'. Archaeologists at the University of Pennsylvania speculated that his tomb was somewhere underneath Temple 16. There were many old buildings down at that level, some of which were earthen-like Olmec structures.

- At that level, the Margarita Temple was discovered. On its front was a stucco facade depicting two birds with their necks intertwined—a quetzal and a macaw. Together, those spell K'uk Mo'. Little symbols around the glyphs denote Yax. Thus, directly under Temple 16, 25 meters deep, was a billboard announcing Yax K'uk' Mo'. In the tomb was a body covered in 30,000 pieces of jade. There were multiple signs of Teotihuacan influence, both inside and outside the tomb.

- Just outside the Margarita Temple were two warriors buried with atlatls. They were taller than Maya people, and they had shell goggle eyes on their skulls. Also buried with them was a magnificent tripod vessel in characteristic Teotihuacan style. The image on it depicted a temple in Teotihuacan's *talud-tablero* style.

- In front of Temple 16 was a stone with 10 glyph blocks. The names of Yax K'uk' Mo' and his son were written there, but near the end was a frog head with smoke coming out of it. This was Smoking Frog from Tikal, or Fireborn the warlord.

- The skull of the body in the tomb had several coats of red cinnabar. A noted osteologist, Jane Buikstra, was called in to examine the bones. She announced that the body in the tomb was that of a woman.

Tomb of Yax K'uk' Mo'

- Further archaeological probing beneath the woman's tomb revealed another building in *talud-tablero* style with a tomb inside, called Hunal Temple. Finally, inside that tomb was Yax K'uk' Mo'. The woman in the tomb above was his wife; his son had buried her with honor above his father.

- Yax K'uk' Mo' reigned only 11 years. Buikstra's analysis concluded that he was very old, probably in his late 60s. Strontium studies on his teeth showed that he was not from Copan, however. In fact, Buikstra was able to determine that he had grown up eating corn in the Tikal area.

- The king's wife was certainly from Copan, bringing him local legitimacy. Yax K'uk' Mo' himself may have come from the Tikal area and, in fact, may have been Fireborn. Yax K'uk' Mo' died in 437. Starting the Copan dynasty may have been his final gift to a Teotihuacan warlord.

Popol Hol

- The son of Yax K'uk' Mo', named Popol Hol, became the second king of Copan and spent much of his career building up the city of Copan. He built the Margarita Temple to house his mother and commissioned the stucco image of his father's name on its facade. He built the city's first ball court; interestingly, though, ball courts are Mayan, not Teotihuacan.

- In carvings, Popol Hol wears a Teotihuacan headdress. It would appear as if he is trying to acknowledge both parts of his lineage—Maya and Teotihuacan. Archaeologists are not sure when Popol Hol died. In fact, there is no evidence of the third, fourth, fifth, or sixth rulers of Copan. The only place the dynastic succession is listed is on Altar Q, which has a complete list of all 16 kings.

Hieroglyphic Stairway

- The hieroglyphic stairway on Temple 26 also names a number of Copan's rulers. With 2,200 glyphs, this is the longest text in the entire Maya world.

- Through the hieroglyphic stairway, archaeologists have learned that the seventh king was enthroned in 524. The site of Caracol in Belize is mentioned; in fact, Copan is apparently connected to sites in Belize in ways that archaeologists do not fully understand.

- The eighth ruler of Copan built a beautiful building called Rosalila—one of the most marvelous finds in all of archaeological history. Its stuccos are painted with ancestors and gods emerging from snakes, with birds above. A doorway leads to a dedication, or termination, cache. A termination ritual is practiced to end of the supernatural life of the temple. Within the cache were beautifully carved obsidian flints and—an astounding find—the body of a five-foot shark. Note that Copan is 80 kilometers from the sea.

18 Rabbit and Quirigua

- The population of Copan expanded under the reigns of the next few kings, especially the 11th king, who ruled from 578 to 628. The 12th

king ruled even longer, from 628 to 695, and died at age 91. Like Pakal in Palenque, he received the title Five K'atun Lord because he had lived through five 20-year periods.

- The 13th king of Copan was undoubtedly the most famous: 18 Rabbit. He built more temples than any other king, and he constructed the final version of the ball court. The king's most celebrated works were the stelae erected in Copan's plaza. They were designed in a new style never seen at Copan, in very deep relief and full figured. The stelae show 18 Rabbit in a variety of costumes, impersonating different gods and enacting shamanic rituals.

- But suddenly, Copan's golden age turned into a disaster. The king of nearby Quirigua, who had been installed as ruler by 18 Rabbit 14 years earlier, captured Copan's king and beheaded him. The Quirigua ruler mentions the beheading four different times in his stelae, but there is no mention of it in Copan. In fact, for the next 17 years, no monuments were erected in Copan.

- At this point, Quirigua was in control of the largest, richest source of jade in the Maya world. The Quirigua ruler remodeled his plaza to be like Copan's and erected stelae that are taller than those at Copan. In fact, the second-largest stela from the Maya world comes from Pusilha in Belize, which had always been connected to Copan. Pusilha was actually under Caracol authority at the time. Caracol and Copan were connected very early; Caracol turned to the Calakmul side against Tikal.

- After Quirigua's coup, Copan remained relatively quiet. The 15th king of Copan, who came to power in 749, rebuilt the hieroglyphic stairway, covered statues with Teotihuacan imagery, and erected two stelae and Temple 11. Copan seems to have regained some importance.

The End of Copan

- Copan's 16th and final ruler was crowned in 763: Yax Pasaj, or First Dawn. He built the last phase of Temple 16 and commissioned

Altar Q, which depicts Yax K'uk' Mo' handing a baton of authority to him. But there were signs of trouble for both royal authority and the valley's population. The population had expanded to more than 20,000 people, and studies have shown that there was complete deforestation.

- The weather pattern had changed and rains were scarce. The burials at Copan in this late period show illness and starvation. On top of the acropolis, Yax Pasaj built a structure Copan had never made—the Popol Na, which is a council house. Yax Pasaj apparently had to share his power.

- A last king, crowned in 822, tried to rule Copan but apparently failed. On Altar L, he is depicted with Yax Pasaj, but one side of the structure is unfinished. The scene is as it was at Palenque—as if the sculptor just dropped his tools and walked away. Copan was abandoned. No one was left to celebrate the 10th *bak'tun* in 830.

Suggested Reading

Andrews, *Maya Cities*.

Fash, *Scribes, Warriors and Kings*.

Martin and Grube, *Chronicle of the Maya Kings and Queens*.

Schele and Friedel, *A Forest of Kings*.

Schele and Mathews, *The Code of Kings*.

Webster, *The Fall of the Ancient Maya*.

Questions to Consider

1. Could Yax K'uk' Mo' really have been Smoking Frog or Fireborn?

2. Why did Copan stay out of the wars of the Peten?

3. What made the Rosalila building so special that it was maintained for more than 100 years?

Calakmul—The Mighty Snake Kingdom

Lecture 20

During the Classic period, no city in the Maya world was more influential than Calakmul. From its location in the northern Peten, its influence spread across the Maya world. Strategic intermarriages were the key to Calakmul's success. Archaeologists have mapped 6,000 buildings at Calakmul—the Snake Kingdom—revealing massive temples at the heart of the city. The city also housed many significant tombs and contained a striking mural in the main plaza. The mural depicts common people buying and selling goods, which indicates that plazas were also marketplaces, not only religious spaces. In this lecture, we'll explore the Snake Kingdom, its intricate web of political connections, and the intriguing inhabitants who inspired its art.

Great Wars of the Peten

- Despite more than three decades of excavation and research at Calakmul, archaeologists still know very little about its origins. Some Preclassic ceramics have been discovered, and Calakmul appears to have survived the Preclassic collapse that El Mirador and other cities suffered.

- The site of Dzibanche, about 200 kilometers to the northeast, contains the earliest Calakmul reference. The Snake King Yuknoom Ch'een is shown receiving captives. Some speculate that Dzibanche was early Calakmul; however, it was most likely a vassal state.

- Strangely, there is not a single reference to a Calakmul king at Calakmul itself until the 600s. The site has painted vessels that describe 19 kings and the founder of Calakmul. The problem is that these descriptions do not match the few carved records that exist; what's more, there are no Long Counts on the vases.

- Archaeologists have pieced together the history of Calakmul and its early kings from monuments at other sites. It was during the search

for inscriptions about Calakmul that the great wars of the Peten finally came into focus.

Promoting Maya, not Teotihuacan

- The city of Yaxchilan is the first to mention Calakmul, in 537. A Calakmul vassal is shown captured there; however, the name of the captive is likely a female title. That is one reason archaeologists believe that Calakmul used the political strategy of intermarriage. Shortly after, in 546, there is another reference to Calakmul, at the site of Naranjo in the eastern Peten. Naranjo is very close to Tikal.

© Daderot/Wikimedia Commons/Public Domain.

The 11 dynastic vases from Calakmul name 19 kings and a founder, but none of the names on the vessels matches any of the available carved records.

- By 561, Calakmul has a new king named Sky Witness, who turned Caracol against Tikal. By 562, Caracol defeated Tikal, and hieroglyphs indicate that the defeat was accomplished under the auspices of Calakmul. Sky Witness actually observed the sacrifice of Tikal's king.

- A possible theory as to why Calakmul attacked Tikal is based on Maya thinking. It was not about resources or territory; it was about Teotihuacan. The Teotihuacan imagery was everywhere in the Peten—except Calakmul. Naranjo and Caracol both stopped displaying Teotihuacan symbolism when they turned to the Calakmul side. Tikal, after its defeat, still had kings; however, Calakmul would not let them use Teotihuacan imagery. It's as if the

rulers of Calakmul did not acknowledge Teotihuacan history, only Maya history.

- Calakmul's next king was Scroll Serpent, crowned in 579. In 599 and again in 611, he attacked Palenque and finally destroyed its lineage bloodline—possibly to put an end to Palenque's Teotihuacan-inspired dynasty.

Yuknoom the Great

- Regardless of its motivations, by the start of the 7th century, Calakmul had succeeded in dominating the Maya lowlands. Scroll Serpent's campaign in the west did not distract him from maintaining his control over the eastern cities. He visited Caracol again in 583, and Naranjo was loyal to Scroll Serpent until his death in 615.

- The next Calakmul ruler oversaw Calakmul's ascension of the successor king in 619. Then three years later, there was a new Calakmul king. Naranjo also got a new ruler, who attacked Caracol.

- Whatever Naranjo's rebellion and Calakmul's series of short reigns represented, Calakmul's next king set everything to rights. Yuknoom Ch'een II—or Yuknoom the Great—ruled for 50 years, from 636 to 686. He erected at least 18 stelae, and many of the temples and palaces at Calakmul are attributed to his reign. Yuknoom the Great may have built one of the massive temples, which itself had Preclassic origins. In form, it is very much like El Mirador. It has large masks on the side of the façade and a triad of temples on its top. By volume, it is actually the largest Maya temple ever built.

- Yuknoom was on the throne at Calakmul when Dos Pilas was established. Dos Pilas was a dynastic split with Tikal, and it is possible that Calakmul specifically orchestrated its creation. When Calakmul attacked Tikal in 677, Dos Pilas joined in that battle; Tikal was defeated in 679. As the Dos Pilas texts note, heads were piled up and blood was pooled.

- B'alaj, the Calakmul puppet of the Dos Pilas kingdom, won the day. For the rest of his life, he enjoyed the benefits of Calakmul's gratitude. In 682, he is depicted dancing with Yuknoom at Calakmul. In 686, he was a guest at the coronation of Yuknoom's son, Fire Claw. B'alaj took multiple wives, some from Calakmul.

Lady 6 Sky: A Maya Joan of Arc

- But B'alaj's daughter, Lady 6 Sky, is the character who truly captures the imagination. As Calakmul was focused on Dos Pilas and fighting with Tikal, the city of Naranjo rebelled again, this time managing to sack Calakmul in 680. Calakmul responded by wiping out Naranjo's lineage for good, probably that very same year. In the year 682, B'alaj of Dos Pilas sent his daughter, Lady 6 Sky, to Naranjo.

- Lady 6 Sky was no more than a teenager when she was sent. She was perfect for Naranjo—half Tikal and half Calakmul. Naranjo went back and forth on its alliances between those two cities, and Lady 6 Sky held both those lineages. She arrived to a defeated city, a city without a king and without a bloodline heir. Her title was Dos Pilas, not queen of Dos Pilas.

- She gave birth to a son in 688. At only five years old, he was crowned as the king of Naranjo. In 695, Tikal defeated Calakmul. Naranjo records that its people were part of that fight and that a Tikal lord was captured. At the front of the army was Lady 6 Sky herself.

- In fact, ten wars were fought before the king was 10 years old, and two stelae show Lady 6 Sky trampling captives; others show her with shields and weapons in hand. She was a true Maya Joan of Arc, and she was setting up the kingdom for her son under the auspices of Calakmul.

Power Struggle in the Peten

- Yuknoom the Great's son, Fire Claw, is most likely buried inside Tomb 4 at Calakmul. Two stelae are cached near the tomb, and

the plate names him as the owner. It is a very elaborate tomb, with jaguar pelts, much jewelry and painted ceramics, and a beautiful funerary mask.

- Archaeologists still have no idea when Fire Claw died, however. After Tikal's defeat, Calakmul went silent for a time. Both Dos Pilas and Naranjo were still fighting Tikal at the time. By about 730, Tikal's liberator king died; then, the balance of power in the Peten area changed. While Calakmul and its allies were quiet, Tikal, in contrast, had started a rampage of revenge.

- The Tikal king decided to continue what his father had started and strove to protect Tikal's new freedom. In 736, his first stelae altar combination shows a Calakmul elite bound and taken captive. In 743, he attacked and crushed El Peru; in 744, he attacked and crushed Naranjo. El Peru fell silent for 47 years. Naranjo fell silent for 36 years.

- But Calakmul was not finished just yet. The city had an interesting tie far to the south. Quirigua's king was named K'ak' Tiliw—which was the name of Lady 6 Sky's son. The political connections here were complicated: Copan was Quirigua's overlord and had early ties with Caracol in Belize. Caracol was Naranjo's overlord, and Calakmul was Caracol's overlord. Thus, in 738, when K'ak' Tiliw murdered the Copan king 18 Rabbit, his city had the backing of Calakmul. That is why the Quirigua king was named K'ak' Tiliw—just like his ally, the son of Lady 6 Sky.

- Quirigua became very wealthy; the city may have been in control of the jade trade. At that time, Tikal decided to deal with Naranjo. Records report that Tikal's warriors threw down Naranjo's patron gods and took the throne.

The End of Calakmul

- Calakmul's play for the southeast and control of Copan's kingdom was thwarted by Tikal. And, by the end of the 700s, Calakmul's influence is very difficult to determine. Neither Calakmul nor

Tikal seemed to have much power. As 800 approached, Calakmul retreated to its capital.

- Calakmul's ally, Yaxchilan, joined Bonampak in a war against a Palenque ally in 787. Under Bird Jaguar, they dominated a number of small cities. Calakmul's former ally Naranjo got back on its feet and started erecting stelae again, but it was supporting Tikal.

- There were at least seven kings at Calakmul after Fire Claw. However, Calakmul's weakening authority may be best seen in the many small kingdoms that grew up in its vicinity. Seibal makes a reference to Calakmul in 849—the last time it is mentioned outside its own gates. The final Calakmul king was Aj Took', He of Flint.

- Thus ended the powerful Maya city that started the great wars of the Peten. If Calakmul's goal was to purge foreign influence from the Maya world, then it succeeded. By the time Tikal recovered, Teotihuacan had fallen, and there was no foreign power to call upon. As for Calakmul, mighty though it was, it was quietly abandoned, like every other city in the Classic period.

Suggested Reading

Ashmore, ed., *Lowland Maya Settlement Patterns*.

Martin and Grube, *Chronicle of The Maya Kings and Queens*.

Questions to Consider

1. Why was Calakmul so much more militaristic than its neighbors?

2. Do you think Calakmul's influence was a one-way street, or do you think its vassal states were influencing it, as well?

3. Why was Calakmul named the Snake Kingdom? What do you think that name symbolized to the people of Calakmul?

The Mesoamerican Ball Game

Lecture 21

To the Mesoamericans, the ball game was more than simply a game—it was also a symbolic reenactment of battle, an embodiment of Mesoamerican mythology, and a worshipful gesture that pleased the gods. In this lecture, we'll discuss the origins and historical descriptions of the ball game, the construction of its impressive courts, the different ways it was played, and its connection to the social life of Mesoamericans.

A Symbolic Reenactment of Battle

- The only lengthy descriptions of eyewitness accounts of the Mesoamerican ball game come from a Spanish priest, Diego Duran, who witnessed Aztec games in the 1570s. Since that was 50 years after the conquest, all the traditional courts had been destroyed, but simpler versions had been constructed.

- Ball courts were I-shaped with a central alley and a center line. The ball game was played with teams of four to six players, who bounced a solid rubber ball back and forth in the court. Players could use only their buttocks and their knees, not their feet or hands. Players had to get the ball back to the other side of the court with only one bounce on their side. They wore nothing but loincloths but used thigh pads and gloves.

- Points were lost for more than one bounce or if the ball went out of bounds. Points were earned for hitting the back wall of the opponent's side. Most players stood in the back and guarded the back line; one or two players stood up front and tried to return the ball immediately. There were also rings high up on the walls at the center line. If a player could knock the ball through a ring with his hip, it was an instant win.

- Although the Aztec courts were quite long, there was no standard court size. Courts varied in length anywhere from 30 to 60 meters.

Each court had a stucco floor, often painted with an image of the patron deity. In fact, it was said that disagreements between two cities could be settled in a ball game instead of a war.

- Aztec cosmology symbolized what the game was about. The ball was the sun, the sloping walls along the alleyway were the sky, and the players had to keep the sun rising. The ball game symbolized the warriors who died in battle and went up into the sky to accompany the sun.

The New World's First Organized Team Sport

- Europeans who witnessed the Aztec ball game were enthralled. The concept of rubber balls swept across the world, inspiring many of our modern sports. But in Mesoamerica, the game had been around for nearly 4,000 years.

- The earliest evidence of the Mesoamerican ball game was in Olmec times. Although archaeologists have not discovered any Olmec ball courts, rubber balls were discovered in 1989 that date back to 1600 B.C.

- At Paso de la Amada, a Maya site that was influenced by the Olmec, was found the earliest-known ball court, dating back to 1400 B.C. It is 80 meters long, with a lane 8 meters wide. Olmec influence started there about 1150 B.C.

- Although the evidence is still debated, early ball-player figures have been found in western Mexico. At El Openo, archaeologists have discovered shaft tombs dating back to 1600 B.C. that contain figurines with knee pads. Although no balls or ball courts are illustrated in the art at El Openo, these figures may very well represent ball players.

- Strangely, Teotihuacan, which grew in power from about 300 B.C., has no ball courts. However, late murals at Teotihuacan show balls and people hitting them with their hips and making head shots.

- By 300 B.C., ball courts were everywhere, except Teotihuacan. Maya areas, Zapotec areas, and western Mexico all have ball courts. To date, archaeologists have discovered more than 1,300 courts all across Mesoamerica. The ball game was the New World's first organized team sport.

An Embodiment of the Creation Myth

- Mesoamerican ball courts have the following standard elements: a playing alley, sloping bench walls, flat bench tops (where people sat), sloping aprons, an upper deck, and back-end zones—all making an I-shape. All courts had a midline. The Aztecs painted that line; the Maya used circular stones. In some courts, rings also marked the center line. An important conceptual element is that the ball courts always appear sunken. The crowd looked down into the court.

- The placement of the court could be connected to a story in the *Popol Vuh*. In that story, the hero twins are ball players, and they go to play a ball game in Xibalba, the underworld. This is a significant global concept from Mesoamerica. Public religious rituals reenact

© Tobias Gelston/iStock/Thinkstock.

The Mesoamerican ball game was a community activity, complete with gambling and male and female spectators of all social classes.

the moments of creation: Christians reenact the holy sacrament; the Maya reenacted the ball game.

- For the Maya, the ball court was underground because they descended to play for life and death. Players must die to truly win. When they won, they resurrected their father, who became the Maize God. The ball was the symbolic maize seed through which the father, the Maize God, was reborn.

- A famous plate from the Maya area features the twins and their father. The father emerges from a crack in a turtle's back. That turtle symbolizes the earth. A turtle is shown with three stars on his back at the site of Bonampak. Their ball courts have three markers, just like the three stones on the turtle's back. The ball game symbolizes the moment of creation that the hero twins enacted.

A Cornerstone of Mesoamerican Religion

- The creation myth in Central Mexico is different; however, it also involves a ball court. A ball court sits at the base of Sustenance Mountain. Water flows down and through the ball court to water the first cornfields. In Veracruz, there are at least 20 ball courts; there, the Sustenance Mountain imagery is very clear. In fact, the site actually has a drainage system under the main court, and water can be made to spring up. This was probably part of a ritual performance re-creating the moment of creation.

- For the Mesoamericans, watery places at the base of mountains were origin places. They were the center of the world. All the capital cities tried to position themselves as symbolic centers. The symbolic center was a watery place called Tollan, or "Place of Reeds."

- Tula, the Toltec capital, was clearly called Tollan. Toltec mythology explains that it was a mythic capital. A place called Snake Mountain was related to Sustenance Mountain. Cities were built with temples above ball courts to symbolize that they were Tollans. Ball courts,

thus, were central to Mesoamerican cosmology and a cornerstone of Mesoamerican religion.

Different Ball Games?

- The cities of western Mexico had ball courts attached to very interesting circular complexes, consisting of rings of rectangular buildings with shaft tombs underneath them. Some extraordinary clay models have been found inside those shaft tombs.

- Some are clay models of actual ball games. They illustrate teams of three to a side, with many spectators sitting above and around the court watching the game. The crowd included not only nobles and men but also women and children. The ball game was a community activity.

- Images from another site from about 300 B.C. in Oaxaca show a very different kind of game, however. In the ball court, some are players; some are shamans. The players wear masks, much like the catchers' masks in modern-day baseball. The players have much smaller balls, which they hold in their hands. They seem to be throwing them at each other. It looks like a completely different game.

- Chichen Itza provides other unusual images of the ball game. The site itself has a huge ball court—the largest in Mesoamerica. Carved along the wall panels are scenes showing the teams—seven on each side—and there is a ball between them with a skull inside it. One of the team captains is beheaded. Seven snakes spew out of his neck like blood, very much like the *Popol Vuh* story connected to the ball game. Most interesting, the players are holding bats in their hands.

- Images from Classic period Maya vases and carved panels also confuse the illustration of play. Many examples show a single player. Others show players one on one. Sometimes, people are shown bouncing a ball against a staircase.

A Central Aspect of Mesoamerican Cosmology

- Differences among the images of the ball game may point to a deeper meaning. The Mesoamerican ball game was not simply a game; it was a symbol, a central aspect of Mesoamerican cosmology. The clues point to the fact that the ball courts were not the sports fields we think they were.

- When we look at the ball courts in most Maya cities, we notice something perplexing: their size. For example, Chichen Itza's court is absolutely massive. It is 156 meters long and 36 meters wide. The rings are 10 meters up. It would be impossible to hit the ball through them.

- By contrast, consider the ball courts at Palenque and Tikal. For major Maya capitals, their courts are extremely tiny. Neither is more than 20 meters long, and they are less than 5 meters wide. A team of more than three players could not fit in the court.

- Quite possibly, the reason these courts are so small is the same reason that Chichen Itza's is so large. They were not actual ball courts but stages for a ceremony, a place to ritually reenact the moment of creation. Other spaces may be ball courts, but these are not.

- An excavation of a ball court on an island in Belize demonstrated that ball courts were not simply for sports: They centered the world and honored creation. Underneath the Belize ball court was the burial of an adult male. Instead of a skull, however, a turtle carapace was buried with the body. The *Popol Vuh* symbolism is clear—the Maize God, the ball court, and the crack in the back of the turtle.

Suggested Reading

Scarborough and Wilcox, eds., *The Mesoamerican Ballgame*.

Questions to Consider

1. Why do ball courts vary so much in size and orientation? Why wasn't there a standard?

2. Do you think the Classic Maya gambled on the ball games, as we know the Aztec did?

3. Could the Mesoamerican ball game ever be revived into a mainstream modern sport?

Enigmatic West Mexico and Shaft Tombs

Lecture 22

As the Maya and the cultures of Central Mexico grew, another cultural group was on the rise along Mexico's western coast, centered mainly in the states of Nayarit, Jalisco, and Colima. But unlike their neighbors, the culture groups in western Mexico developed in distinctly different ways. In this lecture, we will examine the wealth of archaeological evidence in their shaft tombs and explore the culture's mysterious connection to South America. The region of western Mexico saw a continuous cultural evolution for nearly 3,000 years, culminating in the mighty Tarascans. Although the area is on the fringe of Mesoamerica, it has much to teach us about the core.

Shaft Tombs

- Norwegian explorer Carl Lumholtz, who traveled to west Mexico in 1902, was the first to note the area's shaft tombs and artifacts. Just a year later, artist Adela Breton made drawings of the landscapes there and observed the artifacts associated with the tombs. Both observed that the artifacts from this area were very different from the objects found in other parts of Mexico.

- In the late 1930s, archaeologists confirmed a connection between the distinct pottery forms and the shaft tombs. Looters had destroyed most of the tombs, but then, in 1993, archaeologists found their first intact tomb, at Huitzilapa in Jalisco. The shaft into the tomb was 8 meters long, and inside the tomb was a double chamber, holding six individuals. Buried with the bodies were rich offerings of ceramics and other objects.

- There is great variation in the types of shaft tombs in western Mexico. Some are simple and shallow; others are extremely deep. Some have multiple chambers; others have only one. Usually, they are located under small mounds, which makes them difficult to find.

- The shaft tomb tradition reached its peak in the Early Classic period, about 300–400 A.D.; the oldest found was from 1600 B.C. The shaft tomb tradition is very unusual and unique to Mexico; nowhere else in Mesoamerica do we see this kind of burial practices. The earliest examples of west Mexican shaft tombs and their contents are contemporary with Olmec times, but they are definitely not Olmec. Some scholars have speculated that the tradition came from South America.

South American Influence

- The earliest shaft tomb is from the site of El Openo in the state of Michoacan. Dating from about 1600 B.C., it is the oldest known tomb in all of Mesoamerica. By 1200 B.C., that site had many more shaft tombs, with very small figurines in those graves. At the moment, archaeologists consider them completely distinct from any other ceramics in Mesoamerica.

- By 300 B.C., there were many different settlements in west Mexico sharing the tradition of shaft burials. Olmec civilization had just ended. Maya civilization was on the rise. Teotihuacan was in its early stages. But these cultures seemed to have no contact whatsoever with west Mexico at that time.

- Many scholars believe that the people of west Mexico were influenced by cultures in South America. The pottery styles are very similar to the Valdivia pottery type, made in South America, especially around Ecuador. The shaft tomb tradition also has a precedent in South America; it was practiced in Ecuador and Peru, especially in the Paracas region. By 1000 B.C., there were hundreds of bundles of mummies deposited in shafts in the Paracas area.

- An even more compelling connection is that the practice of metallurgy in Mesoamerica began in west Mexico, where people were working with copper, making tiny tools and copper bells. This technology began in South America. No other Mesoamerican culture used metal for another 1,000. One other very compelling piece of evidence is that archaeologists found tumi knife forms in

west Mexico. Those are clearly very distinct and diagnostic artifacts from South America.

- The stirrup vessels found in west Mexico are also undeniably South American artifacts. The Chavin culture in Peru was making these vessels by 1700 B.C.; the vessels appear in western Mexico by 1500 B.C.; and by 1000 to 500 B.C., examples were found in Tlatilco in the Valley of Mexico. That means that these artifacts were actually moving into Central Mexico from the western coast.

© Daderot/Wikimedia Commons/Public Domain.

Stirrup vessels, with spouts that look like saddle stirrups, show a clear and early connection between South America and west Mexico.

Ceramic Figurines

- The beautiful figurines of west Mexico have long attracted art collectors and archaeologists to the area. Close examination of their myriad forms and subject matter teaches us much about the people of western Mexico. Although there is a tremendous variety in the pottery, most of it fits into one of three classification types: hollow, flat, and giant. Each is best represented by a specific region of west Mexico, and much can be tied to specific time periods.

- Nayarit was known for its Chinesco style, named because it is reminiscent of Chinese pottery. Colima specialized in solid, flat figurines with long arms and thin bodies. Jalisco specialized in a kind of hollow human form. This form was complex and difficult to construct; some were of gigantic size.

- Figurines were interred in nearly every shaft tomb, and they provide a wonderful window into everyday life in west Mexico. They illustrate different social classes and people of different ages and sexes. They are beautifully painted, giving archaeologists an idea of how the people tattooed their bodies and what clothes they wore.

- The ceramics depicted warriors in great detail; we can see what their armor and helmets looked like and what weapons they used, including clubs, maces, and spears. The warriors had body and facial tattoos.

- The ceramics also depicted family life, which was rare in ceramics from other areas of Mesoamerica. Illustrated are women and children, couples enjoying each other's company, large social events, feasts, and ball games. The pieces called Colima dogs are evidence that these people kept pets and demonstrated caring toward animals.

Architectural Models

- Perhaps even more illuminating than the ceramic figures are the architectural models showing both the original forms of various building types and how they were used. Decorations show the thatch roofs and how houses were painted and adorned.

- The ceramic architectural models also illustrate the temple complex constructions as they looked in their pristine states. The temples were circular mounds surrounded by rings of platforms that were rectangular. Each rectangular building around the circular mound contained a tomb.

- West Mexico is a unique archaeological case because the models of the architecture became known before archaeologists discovered the actual buildings they were designed to represent.

The Teuchitlan Tradition

- Discovery of the connection between the ceramics and the tombs might not have been possible without the foundational work of

archaeologist Phil Weigand. From the 1960s until his death in 2011, Weigand and his wife surveyed the entire area. They located more than 2,000 sites and made many significant settlement classifications. And, for the first time, their work connected the tombs to the settlements.

- Weigand's survey of the entire region of western Mexico put the area into a cohesive perspective. He established a working ceramics sequence and took many carbon-14 samples to correlate and demonstrate that sequence. Salvage archaeology provided his clues; he did almost no excavations—which can be destructive.

- The largest of the sites Weigand studied was Guachimontones, located in Jalisco. This site contains three large circular complexes, and between two of them is a giant interconnected ball court. It looks just like the models found in the tombs. Weigand dated it to somewhere between 200 and 900 A.D.

- Weigand termed the culture in this area the Teuchitlan tradition. There were some signs of contact with Teotihuacan during the greatest period of expansion here, sometime around 400 A.D. Archaeologists have found tripod vessels and green obsidian from a mine nearby. But it is important to note that there is no evidence that the people of west Mexico were dominated in any way. There is no use of *talud-tablero* architecture, which would be a sign that Teotihuacan had established itself there in a more permanent way.

- Looking into agricultural strategies, Weigand speculated that the people of western Mexico were using marshes and lakes near volcanoes to build irrigation canals and even reservoirs in some places, allowing them to farm on an intensive scale. Weigand also discovered that the Teuchitlan people mined obsidian and turquoise extensively. Tracking those specific materials reveals that the people had a wide trade network, reaching into the north. Turquoise from that area has been found all the way into New Mexico.

End of the Teuchitlan Tradition

- Like their contemporaries in the east, the cities of west Mexico experienced a population surge in the late Classic period. By 700 A.D., Guachimontones had grown to 40,000 people. The Late Classic period also saw new advances in metallurgy—and, again, contact with South America seemed to be the trigger. Earlier, the people in west Mexico mainly constructed tools, but in the Late Classic, they crafted jewelry and art.

- The Teuchitlan tradition began to fade around 800 A.D. and had completely disappeared by 900 A.D. Although there were new villages in the area, the culture no longer constructed circular temples. What's more, there were no more shaft tombs. Instead, the culture and its artifacts look much more like those in mainstream Mesoamerica. Its rectangular plazas and temples are designed like others in Mesoamerica.

- Many scholars have suggested that, of the surviving cultures today, the Huichol are most likely the modern-day descendants of the people of west Mexico. They live in the mountains just to the north, and they have similarities in their dress and traditions. Huichol shamans behave and dress in ways that are reflected in west Mexico's figurines.

- Archaeologically, it seems that the people of west Mexico may have eventually morphed into the Tarascan culture. Around 1100, the Tarascan kingdom developed east of the area and grew steadily in size and strength. The Tarascans were still there when the Spanish arrived, and they were holding their own against the Aztecs.

Suggested Reading

Butterwick, *Heritage of Power*.

Kan, Mieghan, and Nicholson, *Sculpture of Ancient West Mexico*.

Questions to Consider

1. Why was there such a cultural divide between western Mexico and the rest of Mesoamerica?

2. Do you believe that the people in western Mexico were in contact with South America, or is the evidence not clear enough?

3. Why would these people make shaft tombs for more than 1,000 years, then suddenly stop?

Classic Maya Collapse—Cities Abandoned!

Lecture 23

A longstanding mystery of archaeology is the disappearance of the Maya in the 9th century. In a very short time, hundreds—perhaps thousands—of Maya cities were suddenly abandoned. A combination of events led to the collapse of the Maya world of the Classic period: endemic warfare, overpopulation, drought, deforestation and accompanying weather changes, a massive volcanic eruption, political changes, and a mysterious question of timing. The fact is that there was widespread societal collapse across Mesoamerica and beyond; between 700 and 900, everything changed. In this lecture, we will talk about what happened and the theories about why.

The New Four Corners of the Maya World

- Mass abandonment in the Maya world began around the year 800. No more temples were erected, no more monuments constructed, no more ceramics crafted. Palenque was among the first to fall. Palenque's archenemy, Tonina, was the Classic Maya world's longest holdout; its last monument was from 909. Copan displays the same kind of evidence found at Palenque: sudden abandonment.

- Tikal was the big winner of the Maya wars, but it was abandoned, as well; its last date was 849. A place near Lake Peten called Motul de San Jose bears Tikal's emblem glyph. Perhaps Tikal's population shifted to that location.

- The fate of Seibal might be a telling clue. Although the city was defeated in 800 by Dos Pilas and seemingly abandoned, Seibal's population returned in 830 and began erecting new monuments but in a different style. What's more, they were crafting uncommon types of ceramics. Both the monuments and the ceramics show a clear influence of Central Mexico. In fact, Stela 19 bore an image of the Wind God—not from the Maya but from Central Mexico.

- Stela 10 at Seibal, carved in 849, named the four corners of the Maya world as Tikal, Calakmul, Seibal, and Motul de San Jose. Copan had a reference much earlier to the four corners, but those included Tikal, Calakmul, Palenque, and Copan. Both Palenque and Copan were gone by 849, and Seibal knew it. Seibal itself was abandoned for good in 889.

Endemic Warfare

- There were hundreds of known abandonments. Archaeologists have many theories but no definitive answers as to why they occurred. One of the most tempting theories is that endemic warfare ended the Maya Classic period.

- The Petexbatun area in southern Peten, where Dos Pilas was located, was a hotbed of warfare in the mid-700s. Dos Pilas defeated Seibal, then went after Tamarindito and El Arroyo. Dos Pilas teamed up with Aguateca, and together, they staged a military domination of that entire region. They also attacked cities farther out of that area, such as Yaxchilan and Motul de San Jose.

- By the late 700s, the region organized a rebellion against Dos Pilas. Dos Pilas reacted by building a huge defensive wall and palisades around the city. Tamarindito recorded the defeat of Dos Pilas.

- Around 800, the Dos Pilas elites retreated to Aguateca. Although the area was defensible, the evidence of battle and slaughter is compelling. On top of the temples were found warriors with spear tips in their bodies; the bodies seem to have been burned. It seems that the elites' palaces and their families were the specific targets of these attacks. Cancuen, another Dos Pilas ally, was attacked about 800. Again, the royal family and the elites were specifically targeted.

- Of course, the Petexbatun was not the only part of the Maya world at war. Tikal and Calakmul were still fighting. Bonampak put its war murals up about 790. Naranjo was also still fighting; in 799,

its king attacked and burned the nearby site of Yaxha. In 800, Naranjo's Stela 8 recorded a captive from Yaxha.

- However, Naranjo's last recorded king does not mention war; neither does Tikal's last king. Copan and Quirigua had made up at that time. Even the bellicose city of Tonina had calmed down by the mid-800s. Strangely, by 900, even winners of the Maya wars, such as Tikal and Tonina, walked away from their cities. Although war may have been a factor, it cannot be the sole reason for the Maya Classic period collapse.

Drought, Deforestation, Volcanic Eruption

- Widespread drought was a possible reason for the Maya collapse. There was indeed an intense drying period in the 700s. However, many cities, such as Seibal, were on rivers. What's more, the Terminal Classic migrations shifted into such places as the Puuc region, which is even drier than the Peten.

- Another theory is human-caused environmental degradation. This was evident at Copan, where the inhabitants had cut down all the trees in the valley and triggered a change in the rainfall pattern. In an apparent attempt to react to the loss of trees, Copan switched to using much less stucco on its plazas and buildings. Making stucco requires a very hot fire, which uses a great deal of wood.

- Yaxha is a telling example of massive deforestation. The city was on the shores of Lake Yaxha near the border of Guatemala and Belize. Core samples from the lake showed intense silting into the lake at about 800, indicating that the land had been cleared of trees around it. Those same core samples reveal that the area recovered sometime around 1000.

- Yet another hypothesis is that an immense volcanic eruption affected the weather. On the western side of the Maya world stands the giant volcano El Chichon. It erupted around 800, covering the area in ash and disrupting rainfall, perhaps for years. And, from Chichon, ash would have blown all across the Maya world.

Beyond the Maya World

- It was not just the Maya world that saw abandonment of cities; this happened all across Mesoamerica. The greatest Classic period city was Teotihuacan, which burned about 650. Its downfall left a huge power vacuum. As Teotihuacan's population declined, other centers in that area rose up, such as Cholula.

- Monte Alban was abandoned by 800. As Zapotec society declined, Mixtec society ascended. There were clear climate changes in Oaxaca; around Monte Alban, studies of skeletons showed that the people were seasonally starving. And, just as in the Maya areas, there was a spike in population just before the abandonments.

- Dramatic changes occurred all the way up into the American Southwest. Around 750, that area saw new cultural developments: The Anasazi and the Hohokam began to flourish, and the older basket-maker cultures declined.

- In the Maya areas, the last kings of the major cities began depicting themselves participating in councils in public art. Panels at Tikal, Palenque, and Copan all show kings interacting with other nobles. Before, the king stood alone on a monument. The change in public art indicated that kings seemed to be losing much of their despotic power.

Necropoli

- The pattern of residential burials might have been a significant factor in the abandonment of cities. The Maya buried their dead under their houses, not in cemeteries. Archaeologically, this is how Maya residential compounds grow. The house over the tomb eventually converts to an ancestor-worship shrine, and the family moves into the house next to it.

- If that pattern continues for generations, eventually, the whole residential compound must be abandoned. It is remembered and revisited as the revered place where the family's ancestors dwell, but it is not a place of the living—it is a necropolis. If the pattern

continues for centuries, there are more dead than living in the city, and the entire city becomes a shrine to the ancestors.

- A hypothesis is that the Maya cities actually may have become necropoli. That would explain why they were never destroyed or looted. They were never inhabited again, but there is evidence of people visiting them. Just like the residential shrines, on a larger scale, these cities might have been abandoned because they were necropoli.

Timing of the 10th *Bak'tun*

- However, the question of the timing of the Maya collapse still remains open. The answer may lie in something all the Maya revered. Maya civilization may have been a collection of independent city-states, but they all shared the same religion—and the same calendar. The Maya collapse occurred around the arrival of the 10th *bak'tun*, in the year 830.

- Maya priests kept the calendar, and it was above politics. The Long Count calendar was designed to track the sacred cycles of human life. The end of a calendar cycle was a time of transformation and renewal—a time to actively change what people were doing and to begin a new cycle of activities. For the Maya, the *bak'tun* was a major cycle. During the *bak'tun*, politics, religion, and even places of residence were changed. In other words, the people simply walked away. And the timing of the Maya collapse is right at the 10th *bak'tun*.

- By comparison, the 9th *bak'tun*, in 435, was a period when all the royal dynasties began. And, at the 10th *bak'tun*, those royal dynasties ended. The so-called Age of Maya Kings lasted exactly 400 years. By the time the Post-Classic period arrived, the Maya kings had been replaced by council systems. Chichen Itza in Yucatan was ruled by a council, and interestingly, this city lasted 400 years. Chichen Itza was peacefully abandoned right about 1225—at the opening of the 11th *bak'tun*.

- It is possible that the Maya used their calendar to time the abandonment of a way of life that was reaching a crisis point. And, perhaps, that crisis was seen as a validation of the calendar. When things got out of control, the priests decreed that it was time to transform and renew society—and there was no better time or reason to do so than one based on the religiously inspired Long Count calendar.

- Regardless of why, life changed radically for the Maya during the Classic period. The transition period that followed is called the Terminal Classic period—the subject of the next lecture.

Suggested Reading

Ashmore, ed., *Lowland Maya Settlement Patterns*.

Webster, *The Fall of the Ancient Maya*.

Questions to Consider

1. Do you think the reasons for abandonment were climatic, political or something else?

2. How could trade networks have factored into the over political collapse in Mesoamerica?

3. What role, if any, do you think Mesoamerican religions had to play in the abandonments?

New Cities of the Terminal Classic—Uxmal

Lecture 24

Between 800 and 1000, the Maya world went through a transitional time that archaeologists call the Terminal Classic period. A surge of new Maya cities emerged, especially in the Yucatan, with a set of new and different ideas and behaviors. In this lecture, we'll venture into Uxmal, a master-planned city, and study the internal discontent and external pressures that affected the Maya world.

The Chenes

- As mighty Calakmul faded, the city's regional grip loosened and a host of independent cities emerged in its former territory—an area of the Yucatan called the Chenes.

- This area was characterized by a distinct architectural style. Chenes-style temple doors were designed as *witz* monster mouths. (*Witz* is the Maya word for "mountain.") These doors have teeth above and below, and above the doorway are the eyes and noses. Temples were called *tuun witz*, or "stone mountains."

- There is a notable lack of stelae in the Chenes region. The few that are present are uncarved; perhaps they were painted. There are also very few carved glyphs in Chenes sites. Chenes-area public messages were in the art, and they were about supernatural, not human, rulers.

- There are no tall temples in the Chenes area; instead, there are range structures with very wide steps and multiple rooms. In the Post-Classic era, councils, not kings, ruled; perhaps these Terminal Classic range structures are the early signs of council forms of governance. There is not much evidence of fighting in the Chenes area; most of the cities seemed to have been focused on ceremonial and religious events.

- The Chenes region was definitely a cohesive locality that shared art and architecture. The cities were very close to each other—typically, less than 10 kilometers apart. What's more, there was no definitive capital city, one that was larger or seemed to dominate the rest. That might be another indication that kingship as an institution had been rejected.

The Puuc Hills

- An area of the Yucatan called the Puuc hills became a place of intense population increase during the Terminal Classic. Dozens of cities sprang up, all clustered tightly together. Archaeology shows us that the inhabitants of this area dug many *chultuns*, or cisterns, to hold rainwater.

- The architecture of the Puuc region was similar to that of the Chenes area, consisting of ornate, mosaic-covered buildings. Some scholars call it the Maya baroque style. Buildings had *witz* monster doorways, and there were few stelae or hieroglyphs to be found.

- The Puuc city of Sayil provides some clear examples of the architectural changes during the Terminal Classic. Its palace has rounded columns—a new development. Another example comes from the site of Labna, which was close to Sayil. Labna had many causeways, some of which led to a striking arch, wider than any Classic period arch.

Uxmal: A Master-Planned City

- Unlike the Chenes region, the Puuc area had one city that was larger than the rest: Uxmal. In terms of urban planning and architecture, Uxmal is arguably the most beautiful of all Maya cities. Although most Maya cities, especially Classic cities, grew in an accretional pattern, Uxmal was planned and built in one phase. It was also short-lived, perhaps occupied for only 150 years in total.

- Uxmal's main temple is the Pyramid of the Magician. It is built with a *witz* monster mask on the top of the doorway and has stacked masks on its façade. It also has rounded corners on the bottom.

© tato grasso/Wikimedia Commons/CC BY-SA 2.5.

The Pyramid of the Magician is also known as the Pyramid of the Dwarf; this name comes from a local legend that a dwarf built the entire temple in one night.

Those rounded corners are unique to the Terminal Classic style of architecture.

- Uxmal's most common form of architecture was based on quadrangles, many of which are interlocked together in a long string. The Bird Quadrangle is directly underneath the Pyramid of the Magician. There are sculptures of birds flying all around the façades, and the façades look like thatched roofs.

The Nunnery

- The largest quadrangle at the Uxmal site is the Nunnery, so named because it looks similar to European nunneries. Located near the main pyramid, the Nunnery is a huge complex filled with art. Each façade on the interior shows a different scene.

- The Nunnery's art is replete with messages—typical of the Terminal Classic period. There are wide public areas, but we do not see any

kings depicted. The southern building has a simple repeated design of Maya thatch huts. The west side is the most elaborate, with a mosaic weave pattern as the background. In the center foreground is a large snake ejecting an ancestor out of its mouth. Early researchers in the area called the inhabitants of the Puuc region the People of the Rattlesnake.

- The snake icon weaves through other architectural elements, as well. Along the façade are stacked masks and more Maya thatch houses and ancestor heads. On the right side is a dwarf. In Maya mythology, dwarfs were magical beings, often shamans. What's more, Uxmal's temple was named in honor of a dwarf.

- The mosaic weave background pattern is encoded in diamond patterns—squares, squares with flowers, or simply flowers. Above the snake, the pattern is all flowers; below the snake are all squares. This may not be simply a weave pattern; it may be a message—that the divine powers connect temples and nature.

- The top mask on the north building provides an important clue to what was happening at Uxmal. The mask depicts Tlaloc, the Rain God of Central Mexico. That influence from Central Mexico will only increase in the Post-Classic period.

The House of the Governor

- Uxmal's ball court is constructed in the definitive Maya style; it is located in a low area and has side rings. Those rings illustrate a design idea from Central Mexico; they are uncommon in Maya Classic sites.

- Uxmal's most impressive structure is the House of the Governor. Many of its doorways are extremely tall, with arrow-shaped vaults. The House of the Governor has a different orientation from all other buildings at the site. When we stand at the central doorway and look out, we look over a double-headed jaguar throne; then, in the distance, we see a temple at the site of Nopat some 5 kilometers

away. That is the exact spot where Venus rises during its maximum excursion south, once every 8 years.

- Formerly a regional power, the city of Nopat was abandoned like the rest of the cities in the Classic period. The abandonment of Nopat and Uxmal's acknowledgment of it suggest that Uxmal was the new regional authority. But by 900, it, too, was abandoned, probably because of the rise of yet a new regional authority, Chichen Itza, a Post-Classic period city.

Seibal

- Back in the Peten, where most of the Classic period cities had been recently abandoned, new cities emerged in new places. New styles began to pervade art and architecture. And a few cities appeared to have survived the collapse.

- One of the survivors of the Classic period collapse, at least for a time, was Seibal. It was abandoned before 800, but it was then reinhabited. The city produced a new ceramic type, influenced by the Putun Maya, who had strong trade relationships with Central Mexico.

- The new art that appears on Seibal's stelae supports the idea of an influence from Central Mexico. The glyph cartouches on those stelae are square. The depiction of Ehecatl, the Wind God from Central Mexico, on a stela tells us that there was a new religion in the area. And because political authority was so closely tied to religion, there was most likely a new political authority, as well.

- Perhaps Seibal survived for a time because the city abandoned its old ways and adapted to new ones. However, this strategy worked only until about 900; then, Seibal, too, was abandoned.

Population Increases in Belize

- Other sites in Belize at the same time saw population increases similar to those in the Chenes and Puuc regions. Lamanai is one

site that seems to have survived; its population continued straight through the Maya collapse.

- Xunantunich, also in Belize, also grew quickly during the Terminal Classic. It was all but abandoned by the late 600s, but then people returned to it.

- Back in the 600s, Xunantunich seems to have been connected to Naranjo, and it met its fate during the wars in the Classic period. But then, right around the 800s, its population picked up again. What's more, its new pyramid is in the Terminal Classic style, with stucco façades with masks and a distinct lack of stelae and hieroglyphs.

Influences from Central Mexico

- During the Terminal Classic period, mass migrations went out in every direction from the Peten. Archaeologists have come up with two theories to explain this. One is the internal discontent that was being felt in the Peten at the time. The other is external pressures that were being placed on the Maya world, which at the time, was centered in the Peten.

- Clearly, Maya people were unhappy at the end of the Classic period. They had abandoned their kings. Also, we see subtle hints in the Terminal Classic period that ideas from Central Mexico were moving into the Maya area. By the time the Post-Classic period arrived, the influence from Central Mexico is quite clear.

- A possible scenario for what happened is that following the loss of faith in Maya kingship, there was a power vacuum in the Maya area. This provided an opportunity for people from Central Mexico to introduce their own ideas and trade routes. And that resulted in a fusion of new and old, local and foreign. The faith of the Maya people was restored, and they began reinhabiting new cities—something we see in the art, architecture, and religion of the region.

Suggested Reading

Andrews, *Maya Cities*.

Kowalski and Kristan-Graham, eds., *Twin Tollans*.

Webster, *The Fall of the Ancient Maya*.

Questions to Consider

1. Why did the Maya feel the need to migrate? Couldn't they have just changed their culture where they were living?

2. How could a people so openly accept gods from another culture area? Have we missed something?

3. Why did the beautiful sites of the Chenes and Puuc regions survive for such a short time?

Monte Alban and Zapotec Rule over Oaxaca

Lecture 25

Built on top of a mountain, the city of Monte Alban had a commanding view of the entire Valley of Oaxaca in southern Mexico. From there, Zapotec rulers controlled a vast kingdom for more than 1,000 years. At Monte Alban's peak, there was no other city for hundreds of miles that even came close to rivaling its sophistication or scale. In this lecture, we take a step back in time to the Preclassic and Classic periods to understand the history of Monte Alban; its massive, decades-long construction; the rich art objects found in its tombs; and the powerful city's mysterious disappearance.

Monte Alban: A Massive Construction Project

- The city of Monte Alban was built on arid highlands in a location perfectly situated to control all three arms of the Valley of Oaxaca. The mountaintop it sits on was uninhabited before 500 B.C.; at that time, the largest city in the valley was San Jose Mogote, which flourished between 1300 to 500 B.C. During its existence, San Jose Mogote was very much influenced by the Olmec.

- The building of Monte Alban was a massive labor project; just leveling the mountaintop was a huge undertaking. It must have taken decades and at least hundreds, if not thousands, of builders working on it full-time. Archaeologists speculate that the construction of Monte Alban was almost certainly initiated by the people controlling San Jose Mogote.

- This speculation is supported by several important facts.
  - San Jose Mogote's population dropped as Monte Alban's rose around 500 B.C.

  - Monte Alban's earliest architecture was very similar to that of San Jose Mogote.

- The people of Valle Grande resisted Monte Alban, just as they resisted and fought San Jose Mogote.

- By 500 B.C., Monte Alban's plaza was finally leveled and its first temples were erected. Below it on the hillside were terraces with housing compounds for the elites. These elites seemed to be administrators, artisans, or people running workshops. By 300 B.C., there were 5,000 people living in Monte Alban, and San Jose Mogote was completely gone.

"Disembedded Capital" Model of Oaxaca

- By 100 B.C., archaeologists believe there were more than 17,000 people living in and around Monte Alban. Zapotec power was undeniable at that time; Monte Alban represented only a fraction of the lands the Zapotec controlled. The political and economic strategy of the Zapotec unified the entire Valley of Oaxaca and bound its inhabitants in a new Zapotec cultural identity.

- By the beginning of the 1st millennium, Monte Alban had complete control of the valley. The city did not simply control the trade, however; it created an organized division of labor.

- Each village in the valley specialized in a different product. Monte Alban was the administrative center that kept all that in order. Goods were redistributed through a centralized government structure in the city of Monte Alban. The capital itself was supplied by the valley, in a scheme some scholars have called the "disembedded capital" model of Oaxaca.

Early Excavations at Monte Alban

- At Monte Alban's peak, there was no other city for hundreds of miles that even came close to rivaling it in sophistication or scale. At the heart of the city was a huge plaza, 300 by 200 meters. All around the plaza were temples and palaces that reached their largest form about 680 A.D. Other cities, such as those in the Maya world, were accretional. But Monte Alban was master planned from the very beginning.

- Alfonso Caso was the first excavator of Monte Alban; he worked at the site from 1932 to 1953. He was also the founder of the Instituto Nacional de Antropologia e Historia (INAH) in 1939. Caso was most famous for discovering Monte Alban Tomb 7 in 1932. The richest tomb in the Americas at the time, Tomb 7 was not Zapotec; it was actually Mixtec. Mixtec people came in at a later date and put their own bodies in an originally Zapotec tomb.

- Many of the temples in the plaza are in the *talud-tablero* style of architecture—a sign that Teotihuacan influenced Monte Alban during the Classic period. The north end of the city is dominated by a large platform with houses, likely the residences of the royal family of Monte Alban. Three joined temples interrupt the open space in the center of Monte Alban's plaza. Two tombs were found underneath Building H, the central building.

Zenith Passage Tube

- Just south of the center temple is the most interesting building at Monte Alban: Building J. This structure is oriented differently than the rest of the buildings. It is 45 degrees off the center; it has an arrow shape; and it is not rectangular. It seems to be pointing to the southwest. It has been called an observatory because of its unusual orientation.

- It was been speculated that the building was pointing at the zenith passage at Monte Alban—the day on which the sun will appear directly overhead. If we visualize a line backward from the arrow tip to the edge of Monte Alban's plaza, it leads to Building P. Under Building P's staircase is a zenith passage tube, a specific chamber with a long tube so that astronomers could site and calculate zenith passage. This zenith passage tube is one of only three chambers like it found in all of Mesoamerica.

- If we stand above Building P, over the zenith passage tube, and look west, we see Buildings G, H, and I. Those three buildings could have been used to determine the solstices and equinoxes, just like the E-Groups located in the Maya areas.

Zapotec Writing System

- Archaeologists have two main sources for art forms in Monte Alban—carved stone monuments and offerings left in tombs. Over the decades, more than 170 tombs have been located within Monte Alban.

© Tatiana Murcova/iStock/Thinkstock.

More than 300 Danzante figures have been found in and around the valley of Monte Alban.

- Monte Alban's most celebrated art pieces are the Danzantes, figures carved on irregularly shaped slabs. They are called Danzantes because the figures look as if they are dancing. However, they are not really dancing; they are naked and contorted, with obvious wounds. The images may have been a show of power by Monte Alban.

- Stelae 12 and 13 at Monte Alban are noteworthy because of their dates, estimated to be about 100 B.C. These stelae represent the earliest solar calendar glyphs in all of Mesoamerica. They are also proof that the Zapotec had a basic writing system in Preclassic times, perhaps as early as the Maya or Epi-Olmec systems.

- Monte Alban's Lisa Stela is significant because it depicts Teotihuacan-related images. It shows four men, bearing gifts and wearing Teotihuacan headdresses, heading to a fifth man, who is wearing a Zapotec headdress. Archaeologists suspect that this image implies that Teotihuacan elites started controlling Monte Alban's elite. Monte Alban is directly on the way to the Maya region; it would have been a logical stop for trade routes.

- Interesting carvings are embedded in the walls of Building J. About 40 slabs along its walls illustrate toponyms—meaning place names or name glyphs. Caso termed these *conquest slabs* and suggested that they were areas that were conquered by Monte Alban.

Zapotec Deities

- Art objects found in Monte Alban's tombs, such as ceramics, jewelry, and painted walls, provide insights into how the inhabitants dressed and how they worshipped. Tombs 103, 104, and 105, found under the palace structures, are ideal examples of Zapotec tombs.

- The tomb walls depict the elites and their rich clothing. Tomb 105 shows a scene of an elite procession, in which all are wearing headdresses of beautiful green quetzal feathers and green jade ear flares. The women's *huipiles* are woven with intricate geometric patterns, showing that the Zapotec were expert weavers. The men carry carved staffs and bundles. Out of their mouths are speech scrolls with flowers on them—which means that they were singing.

- The ceramics found in the tombs also provide images, especially of Zapotec deities. The most common Zapotec deity illustrated was Cocijo, God of Rain and Lightning. He is shown in a mask with a hooked nose, and he has a snake tongue. Because his image is found in nearly every tomb, Cocijo may actually have been the patron deity of Monte Alban.

- Another deity portrayed at Monte Alban is Xipe Totec, the "Flayed One"—a terrifying god who rips the skin off enemies and sacrificial victims. He is much better known from Aztec times, but Monte Alban ceramics prove that he was also in the Zapotec pantheon and probably in their practices.

Collapse of Monte Alban

- As it turns out, Monte Alban was not the sole authority on the mountain; it had a sister city, Atzompa. When Atzompa was opened up for excavations, many pyramids and plazas were discovered, as well as large elite residences and a very rich tomb. What's more, the

site has three ball courts. The architecture at Atzompa is identical to the architecture at Monte Alban, but Atzompa's dates are all after 650 A.D.

- It seems that about 650, Monte Alban was beginning to lose its sole authority. In the east valley, Mitla began to grow; in the south valley, Zaachila expanded. Both those cities were still Zapotec, and they both survived up to the Spanish conquest, but Monte Alban did not.

- In 600, Monte Alban's population was 35,000, but it ceased building about that time. Atzompa and the other valley sites continued to grow, but by 750, Monte Alban was completely abandoned. Like the Maya sites, there was no sign of destruction at Monte Alban. Its people, apparently, just walked away.

- A few hundred years later, the site would be inhabited not by the Zapotec but by a closely related culture called the Mixtec. The Mixtec would reuse Monte Alban's tomb chambers, filling them with something that Monte Alban never had: gold.

Suggested Reading

Marcus and Flannery, *Zapotec Civilization*.

Miller, *The Art of Mesoamerica from Olmec to Aztec*.

Paddock, ed., *Ancient Oaxaca*.

Questions to Consider

1. The people of San Jose Mogote decided to move their population to Monte Alban. Why?

2. We have the names and portraits of rulers from nearly every Maya city. Why didn't Monte Alban provide us with similar names and portraits?

3. Do you think that the Danzantes represent tortured captives, ritual dancers, or something else?

The Mixtec Rise—Gold and Epic Stories

Lecture 26

For millennia, people have inhabited the area known as La Mixteca, which covers western Oaxaca, Puebla, and parts of Guerrero. La Mixteca comprises three regions of Central Mexico: Mixteca Alta, the highlands; Mixteca Baja, the lowlands; and Mixteca de la Costa, along the Pacific coast. The Mixtec began to flourish just as the Classic period was ending. In this lecture, we'll study the Mixtec's history, archaeologist Alfonso Caso's fortuitous discovery of Tomb 7 at Monte Alban, his decipherment of the Mixtec codices, and a story about more gold than most archaeologists have ever seen.

The Mystery of Tomb 7

- In 1932, Mexican archaeologist Alfonso Caso discovered Tomb 7 at Monte Alban. That single tomb was filled with more gold than all previous excavations in Mesoamerica combined had ever found. The Zapotec had built Monte Alban, but the body buried in the grave was not Zapotec; it was Mixtec.

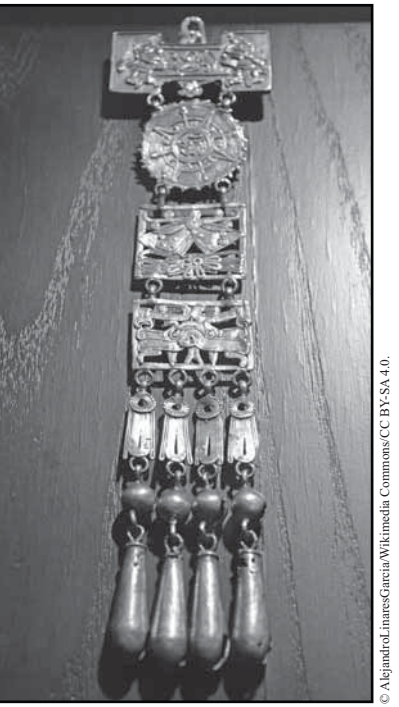
- The individual in Monte Alban's Tomb 7 was buried sometime during the 14th century; however, the Zapotec had abandoned the site 400 years earlier. The Mixtec did not re-inhabit Monte Alban; they just buried their kings there. The act was a connection to ancestral authority.

- During the Classic period, the Mixtec were eclipsed by their neighbors. Monte Alban was to the east; Teotihuacan was to the west. The Mixtec built urban centers in the typical city-state model. Their two main locations from the Classic period were Montenegro and Yucunudahui, both in the Mixteca Alta.

- A well-documented Mixtec Classic site was Huajuapan in the Mixteca Alta. The site was built in a style similar to Monte Alban's.

It produced a very distinctive orange-ware pottery that was also found at both Monte Alban and Teotihuacan.

- When the Classic period collapsed, Monte Alban and Teotihuacan were both abandoned, creating a massive power vacuum. That's when the Mixtec stepped in—forging a unique cultural identity.



© AlejandroLinaresGarcia/Wikimedia Commons/CC BY-SA 4.0.

The Mixtec learned gold working from contact with Peru.

A Wealth of Gold

- Howard Carter discovered the tomb of Tutankhamun in 1922 and captured the world's imagination. An ancient past of fabulously wealthy kings came to life. Then, just 10 years later, Caso discovered Monte Alban Tomb 7. Other tombs had been found in Mesoamerica, but this one had something that none other did: gold.

- Tomb 7 contained more gold than all the archaeologically obtained Aztec gold put together. In fact, the Aztecs mainly relied on the Mixtec to produce their golden jewelry and objects.

- Tomb 7 was constructed sometime in the 1300s. The proof that the Mixtec had mastered gold working was inside the tomb. There was also evidence of a South American influence in the gold work. There were three waves of definitive South American contact in

Mexico: in the Preclassic, in the Classic, and with the Mixtec in the Post-Classic.

- Most of the designs on the gold in Tomb 7 are clearly Mesoamerican—the 260-day calendar signs, ball courts, solar motifs with volutes, and Mixtec deities. However, a few of the designs and images further hint at an influence from distant Peru. One is the South American tumi knife.

- Tomb 7 was filled with hundreds of beautifully crafted objects. In addition to gold and silver jewelry of all types, there were objects crafted in jade, pearls, turquoise, obsidian, and crystal. Gold objects included rings, earrings, bracelets, and necklaces, some with images of royalty, a ball court, or a sun symbol. Another beautiful, if macabre, object found in the tomb was a skull covered in a turquoise mosaic. This was an indication that the Mixtec practiced decapitation, like their neighbors—and their colleagues in South America.

Lady 9 Grass

- Objects carved in bone were also found in Tomb 7. Their elaborate carvings included place names, people, and dates. These were weaving battens, used in backstrap-loom weaving. In fact, some of the bodies found in Tomb 7 were identified as women.

- In the 1990s, a new interpretation of these finds was offered by archaeologists Sharisse and Geoffrey McCafferty. Looking at the entire collection of items in the tomb, they discovered spindle whorls, combs, and small bowls used for spinning cotton. Examining the placement of these objects, the pair determined that the objects were actually associated with the main body in the tomb.

- The McCaffertys suggested a radical reinterpretation: The main individual in the tomb was female. Weaving was a purely female activity. Elite women in codices were actually shown with battens. Further, the evidence suggested that the tomb was a shrine to the female deity Lady 9 Grass.

The Mixtec Codices

- Examining the carvings on the battens led to Alfonso Caso's discovery of the Mixtec codices. Today, we know of at least eight Mixtec codices in existence. Most recount the deeds of a culture hero named 8 Deer Jaguar Claw, who unified the Mixtec realm in the 11th century.

- Caso found the first Mixtec codex, later named the Zouche-Nuttall. That codex had been acquired by a man named Lord Zouche, a wealthy English bibliophile. Zelia Nuttall was an American archaeologist working for Harvard University's Peabody Museum. Lord Zouche gave her permission to make a copy of the codex in 1902.

- Nuttall commissioned the best artist she could find, who made a perfect copy of the codex, capturing all its brilliant colors and intricate details. Nuttall's conclusion was that the codex was Aztec.

- Caso, however, wrote a paper in 1949 identifying not only the Zouche-Nuttall Codex but also many other codices as a group that should be renamed the Mixtec codices. Caso used the Zouche-Nuttall Codex to prove that they all had a similar reading order.

- Unlike Maya or Aztec codices, the Mixtec codices had a continuous narrative. Much like the Greek *Odyssey* or *Iliad*, the Zouche-Nuttall Codex told a story of heroes. Other Mixtec codices told exactly the same story.

- There were two keys to Caso's decipherment of the Mixtec codices. He followed the red dividing lines through the pages, and he followed the date glyphs through those same red lines. Weaving through the red-line maze is how the reader navigates the narrative sequence. Each event is marked by a date showing the year and day in the typical 260-day glyphs. Caso used the dates to prove that the narrative moved logically forward through time.

- Once Caso knew the reading order, he tracked the heroes through the codices. He identified where they traveled using the location's toponym, or name glyph. Then, looking at Aztec tribute lists, Caso found the same toponyms.

- The Mixtec codices told Caso what excavations could not: who made Tomb 7 at Monte Alban. These people were the descendants of 8 Deer Jaguar Claw from Tilantongo, the capital city of the Mixteca Alta. Caso then studied the other seven codices, the ones written in the other Mixtec city-states, and put together a complete and fascinating account of Mixtec unification in the 11th century.

The Story of Mixtec Unification

- The man known as 8 Deer Jaguar Claw was born in 1063, the son of a priest of Tilantongo named 5 Alligator. During his young warrior days, 8 Deer Jaguar Claw conquers five places; then he reaches a significant moment in his life: He meets an oracle named Lady 9 Grass.

- After meeting the oracle, 8 Deer Jaguar Claw plays a ball game at Tututepec, a major city in the south near the coast. He becomes its ruler; now, the highlands and the lowlands are connected through him. Immediately after taking Tututepec, 8 Deer Jaguar Claw conquers another 24 places—they are all depicted as a toponym with a spear sticking into it.

- Going on a journey, 8 Deer Jaguar Claw meets a powerful lord named 4 Jaguar. Together, they perform some kind of bundle ritual. At the conclusion of that ritual, a priest comes out and pierces 8 Deer Jaguar Claw's nose. Some speculate that 4 Jaguar might have been the ruler of the Toltec capital of Tula at that time. Although that is debated by archaeologists, it is entirely possible that Tula was part of the Mixtec authority and right to rule.

- Once 8 Deer Jaguar Claw has 4 Jaguar's support, he seizes Tilantongo. The next 14 pages of the codex list 112 lords. Each one of them is shown seated with one finger pointing out. It is believed

that they are all signaling their submission to 8 Deer Jaguar Claw. And with that, the Mixtec attained the largest, most unified empire in their history.

A Major Force in the Post-Classic Period

- Certain documents in the Mixtec codices say that 8 Deer Jaguar Claw was murdered in 1115, at exactly 52 years of age—which is one complete cycle of the Mesoamerican calendar. This seems to indicate that the story is part of a mythology.

- However, the epic stories written down by Homer were thought to be myth until Schliemann discovered Troy. In the 1960s, Caso's excavations began discovering the places in the Mixtec codices. Both colonial documents and modern town names helped Caso's search. He found modern-day Tilantongo—today called Santiago Tilantongo. Excavating under its colonial church, he found evidence of a palace and a temple complex. Caso also found evidence of a Classic period abandonment and a Post-Classic reestablishment of the site.

- The most recently discovered city from the Mixtec codices is Tututepec. Excavation showed that it had a Preclassic beginning and a large Classic period population. Between 800 and 1100, Tututepec was only 1 hectare in size, but then suddenly after 1100, its population surged again. All this evidence links to the story of 8 Deer Jaguar Claw.

- Thanks to the pioneering work of Alfonso Caso, the Mixtec have gone from an almost unknown culture to a major force in the Mesoamerican Post-Classic period landscape. It was the events during the Terminal Classic period that set the Mixtec on their path. We'll study those momentous events in our next lecture.

Suggested Reading

Byland and Pohl, *In the Realm of 8 Deer*.

Nuttall, ed., *The Codex Nuttall*.

Paddock, ed., *Ancient Oaxaca*.

Spores and Balkansky, *The Mixtecs of Oaxaca*.

Questions to Consider

1. Comparing Mixtec gold work with contemporary works from Peru, do you see stylistic similarities?

2. The typical Mesoamerican pattern is to leave abandoned cities alone. Why did the Mixtec decide to reuse old capitals, such as Tututepec or Monte Alban?

3. Do you think the Mixtec codices can lead us to the discovery of more Mixtec ruins?

The Great Pyramid of Cholula and El Tajin

Lecture 27

In this lecture, we'll explore the region that encompasses the Gulf Coast state of Veracruz and the adjacent state of Puebla. During the Classic period, those areas were relatively quiet places under the control of Teotihuacan. But as Teotihuacan waned, Veracruz civilizations grew in size, power, and complexity. This lecture focuses on two unique cities that survived the Classic period collapse and prevailed into the Terminal Classic: Cholula and El Tajin.

Classic Veracruz Culture

- Veracruz has been occupied since the Archaic period. Archaeologists have found evidence of a hunter-gatherer culture; eventually, the Olmec civilization spread into Veracruz. The Epi-Olmec culture is theorized to have migrated north to become what archaeologists call Classic Veracruz culture, which flourished between 300 and 900.

© Daderor/Wikimedia Commons/Public Domain.

The well-known Sonrientes are remarkable because they depict smiling figures, which are otherwise quite rare in Mesoamerican art.

- Most of the known Classic Veracruz culture sites cluster around the modern-day city of Veracruz. The culture was probably inspired by Teotihuacan's vast trade network. The Classic Veracruz area outlived Teotihuacan, but the sites were abandoned before the Terminal Classic period ended.

- The Classic Veracruz people are most noted for their pottery, especially the Remojadas style. The best-known figures are called the Sonrientes, or the "Smilers." Sonrientes were mold-made and mass-produced. Classic Veracruz also produced marvelous terracotta figures that were hollow, with long arms and delicate appliques.

- When looking for precedents for these kinds of ceramics, western Mexico seems the best candidate. Another possible connection between the western coast of Mexico and Veracruz is Los Voladores, or "the flyers"—a tradition in which four men jump off the top of a pole attached to ropes. Today, it's said to come from Veracruz, but archaeology first finds evidence of those poles not in Veracruz but in west Mexico's Teuchitlan tradition as early as 200 B.C.—much earlier than Veracruz.

The World's Largest Pyramid

- Cholula is an archaeological site in Puebla containing the world's largest pyramid—larger than any in Egypt. Khufu in Egypt is the tallest, at 147 meters, but its base is only 230 meters on a side. Cholula's pyramid is only 66 meters tall, but it is 400 meters on a side.

- Cholula's massive structure was built in four major phases. The site sits under two towering volcanoes: Popocatepetl and Iztaccihuatl. The surrounding farmland is extremely rich, with deposits of clay and obsidian.

- The first-phase pyramid, started in 200 B.C., was Cholula's main temple for 400 years. The structure had rounded steps, like those at the site of Cuicuilco. Cuicuilco's temple was pre-Teotihuacan and was buried by repeated volcanic eruptions. The name *Cholula* actually means "Place of Retreat."

- The first-phase pyramid was constructed of adobe bricks, not stone, and the building itself was painted red and black. The temple contained many trade items from Teotihuacan. Around 280 A.D.,

the second phase of the pyramid was built, in *talud-tablero* style—even more clearly influenced by Teotihuacan. This second phase was a combination of adobe and stone. Skulls were painted on the façades, perhaps an indication that the populace practiced ritual sacrifice, as did their neighbors in Teotihuacan.

Murals of the Drunkards

- Teotihuacan controlled Cholula, but the lesser city still maintained its own distinct character. One of the best examples of its unique character is the Murals of the Drunkards—a fascinating window into Cholula's life.

- The murals together represent the longest mural in all of Mesoamerica, a total of 57 meters. The murals depict people in a festival of sorts, not an austere ritual. All walks of life are involved in the mural—the young, the old, men, and women. And it seems that the gods are also intermingling.

- Everyone is drinking out of cups, dipping the cups in large basins. There are only 110 people in the scene, but there are 168 jars and cups—the drinks outnumber the people. The theory is that the people are drinking *pulque*, an ancient alcoholic drink made out of agave.

Cholula: A Powerful Capital City

- The third phase of Cholula's pyramid was built about 358 A.D. and illustrates even more Teotihuacan influence. Constructed of stone and stucco, this structure was larger than Teotihuacan's Pyramid of the Moon. This was a clear sign that Cholula was a powerful capital.

- But when Teotihuacan's power began to wane, Cholula's did not. By 400 A.D., Teotihuacan stopped growing, but Cholula did not. By 650, Teotihuacan burned to the ground; Cholula grew even stronger.

- After Teotihuacan was burned and abandoned, the inhabitants of Cholula responded by once again transforming their pyramid. In the fourth and final phase of construction, the builders went back

to using adobe combined with packed earth to make the entire structure into a naturalistic, human-made mountain.

Symbolic Reenactment of the Creation Myth

- A complex called the Courtyard of the Altars was built on the south side of Cholula's pyramid. The Courtyard of the Altars is part of a set of clues that point to a mystic re-creation encoded in the new architecture.

- Popocatepetl is locally called Sustenance Mountain. There's a spring from the east side of the Cholula pyramid, from which water pours into a marshy area. In that marshy area are cattail reeds, or tollans. This is clearly symbolic of the mythical origin places. The courtyard is said to be the symbolic ball court; the marsh symbolizes the first maize crops; and the pyramid is the mountain. All the elements fit into the creation myth. And the same sort of mythology is repeated at El Tajin.

- Cholula's pyramid was finally abandoned in 1200; the Courtyard of the Altars was burned. Many sites in Central Mexico show the same evidence of burning. Scholars blame this destruction on a group called the Tolteca-Chichimeca, raiders from the northern deserts.

- In 1200, Cholula's people moved the center of their city to a new location and built a new temple, dedicated to Quetzalcoatl. At that same time, the inhabitants also made a major craft production switch, to making textiles. Cholula remained strong until the very end. When Cortes arrived, he estimated it was a city of 100,000 people.

El Tajin's Innovative and Unique Technology

- A site contemporary with Cholula was El Tajin, located in northern Veracruz. At first, it was simply another Teotihuacan underling, sending tobacco and vanilla to the powerful city. When the centralized control of Teotihuacan ended in the 600s, however, El Tajin grew quickly and became a regional capital.

- El Tajin had a very distinct style of architecture. The builders placed niches in each terrace. What's more, the site alone has 20 ball courts. El Tajin's most famous building is the Pyramid of the Niches. Styled in a variation of *talud-tablero*, the pyramid has square niches all around the sides; the *tableros* are what archaeologists call "flying cornices."

- The pyramid was painted mostly red, but the interior of the niches was painted black. It had seven terrace levels and exactly 365 niches; thus, the pyramid represented a kind of solar symbolism, as well.

- The pyramid had a perfect geometry based on combinations of the square root of 2 and the golden mean. The angles on the sides are perfect diagonals of square-root-2 rectangles. The staircase is constructed as two golden mean rectangles stacked on top of each other.

- One of the most impressive aspects of El Tajin was the use of poured cement slabs. This was an extraordinary technological development. Cement would not show up in Mesoamerica until the Europeans arrived—except at El Tajin.

The Ball Game as Warfare

- The most complex and beautiful art panels at El Tajin are found along the playing-field walls of certain ball courts. These panels provide remarkable insight into the connections among the ball games, warriors, sacrifice, and the favor of the gods.

- The imagery is clearest in the south ball court. The context is a ball game, but the images depict warriors carrying spear bundles. The warriors are clad in jaguar and eagle costumes. The illustrations also show victims being sacrificed and their hearts cut out. Skeletal gods look down on these sacrifices.

- The ball game is seen as a symbol of warfare. War is a political affair, driven in Mesoamerica by religion. Religion is driven by

the fact that the gods need sacrifices. The warriors provide those sacrifices to the gods.

Connection between Cholula and El Tajin

- On another level of symbolism, the architecture tells us more. Underneath the south ball court is a water system, designed to flow from the temple into the ball court. Again, we are reminded of the Sustenance Mountain myth, just as in Cholula to the south.

- Portrayed in that ball court are people in costume sitting in vats of liquid, surrounded by deities drinking. Perhaps these are *pulque* rituals, like the ones depicted on Cholula's Murals of the Drunkards. It makes sense that there would be some sort of cultural association and connection between El Tajin and Cholula.

- Linguistically, there is a connection between the two. Today, the people around El Tajin are the Totonac people. They are not Maya, but the Huastec in the same area speak a Maya language. Perhaps these people were part of the migrations into the area during the Terminal Classic period. Although Cholula survived the radical changes of 1200, El Tajin did not. About 1230, El Tajin burned to the ground—most likely at the hands of the Tolteca-Chichimeca.

- El Tajin embodied the transitions of the Terminal Classic period. The city combined old symbols of authority and new strategies of political control and religion. Clearly, there was some Maya influence, which was backed up by the same local cultures at Cholula.

Suggested Reading

Koontz, *Lightning Gods and Feathered Serpents*.

Scarborough and Wilcox, eds., *The Mesoamerican Ballgame*.

Questions to Consider

1. Were Cholula and El Tajin the same culture, or did they just share certain religious ideas?

2. What was Cholula doing differently that it survived the 1200 A.D. transition and El Tajin didn't?

3. Do you think El Tajin and Cholula were responsible for Teotihuacan's demise?

Cacaxtla Murals and Xochicalco

Lecture 28

Mass abandonment and destruction of cities across Mesoamerica led to what scholars refer to as the Terminal Classic period. New cities emerged, experimenting with innovative strategies to legitimize their authority. In Central Mexico, certain cities were successful in blending cultural traits from all over Mesoamerica. In this lecture, we will study the two finest examples of cultural fusion: the cities of Cacaxtla and Xochicalco.

A New Militarization

- The Terminal Classic period was a time of transition. The Maya area saw population movements; in Central Mexico, Teotihuacan and Monte Alban were abandoned, as were many other cities. The old centers of power were gone. Boundary lines disappeared and trade was disrupted. Some of the newer cities that grew up had a decidedly military focus, seen in both their defensive works and their art.

- Teotihuacan had been the sole despotic authority, but now power had reverted back into the hands of numerous city-states. They scrapped for territory and power against one another. Most of these new cities militarized and fortified themselves on hilltops. The best examples of those hilltop cities are Cacaxtla and Xochicalco. Both were built very quickly and with walls surrounding them. And both, in their own way, honored Teotihuacan.

- Both Cacaxtla and Xochicalco adopted Maya traits and assumed the old trade routes. Both rose to prominence in exactly the same time frame, from 650 to 900. Scholars have suggested that they might have had something to do with Teotihuacan's demise.

- Both Cacaxtla and Xochicalco seem to be predecessors of the Toltec. Many Toltec art themes are seen in the two cities, and Toltec expansion began just as these two great cities fell.

Xochitecatl

- Cacaxtla was not a complete city but a large palace and ceremonial complex built on top of a hill. Its buildings were all located on a massive platform called Gran Basamento. These buildings are actually about a kilometer away from its associated ceremonial center, Xochitecatl.

- Xochitecatl was built atop a large lava dome; excavations in 1994 revealed that it dated back to almost 1000 B.C.—Olmec times. By 800 B.C., Xochitecatl's rulers had built the Pyramid of the Flowers in stone. At that same time, La Venta was building earthen mounds.

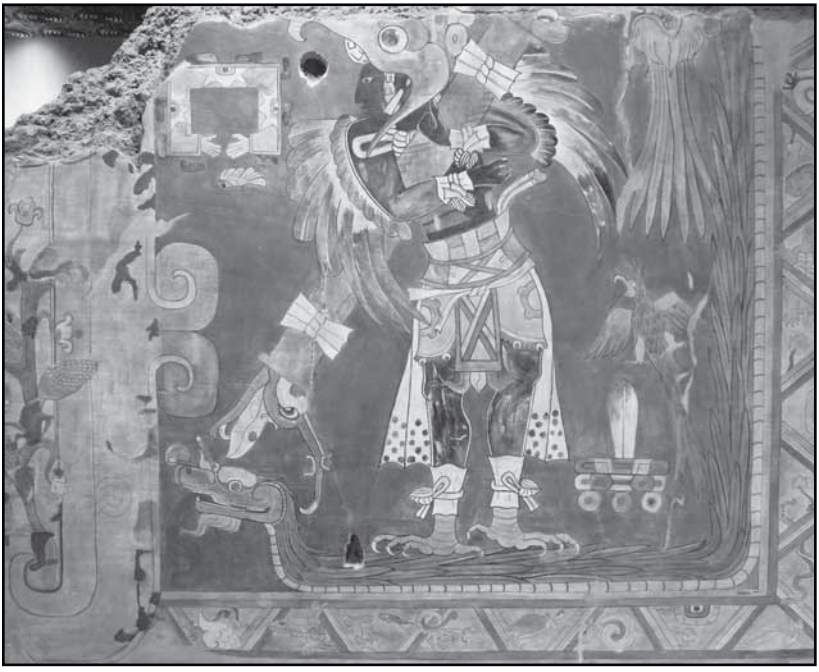
- Xochitecatl's peak Preclassic power extended from about 350 B.C. to about 150 A.D.; thus, it was contemporary with the Epi-Olmec site of Tres Zapotes. But in 150 A.D., the volcano Popocatepetl erupted, and Xochitecatl was abandoned.

- In a rare case, however, the city was actually re-inhabited during the Classic period. The inhabitants built a new temple called the Pyramid of the Volcanoes, and they rebuilt the Pyramid of the Flowers. The Pyramid of the Volcanoes was filled with female figurines and child sacrifices—most likely evidence of fertility rituals. The murals at Cacaxtla also were linked to fertility rituals.

The Jaguar and the Eagle

- The Cacaxtla murals are arguably the finest ever discovered in Mesoamerica. Their full-color beauty and skillful artistry are rivaled only by the enlightening nature of their content.

- Depictions of bird and jaguar warriors appear on the façade of Building B, which faces the plaza, the most public space of Cacaxtla. Called the Battle Mural, the paintings flank the central staircase and illustrate a narrative of two classes of warriors meeting in battle—the jaguars and the birds. After the battle, captures and sacrifices are shown. What is most interesting is that the faces in these Cacaxtla murals look very Maya.



© El Comandante/Wikimedia Commons/CC BY-SA 3.0.

The Cacaxtla murals are full of war imagery, such as this bird warrior; apparently, the city itself lived and died by the sword.

- Eagles and jaguars are shown together on the door jambs of Building A. These murals are called collectively the Priestly Attire Murals because everyone is clad in rich costumes. On the north jamb are men in jaguar costumes; on the south jamb are people in eagle costumes.

- Finding these two mythological symbols opposite each other is of undeniable significance. The juxtaposition is foundational for what would happen later in Mesoamerica. The Tula would use these jaguar and eagle warriors in their art, and those ideas would transfer all the way across Mesoamerica into Chichen Itza, a Maya site. Ultimately, the Aztecs would use those same symbols to dominate most of Mesoamerica.

Maya Influence

- Elements of the Priestly Attire Murals also indicate a cultural blending. A jaguar warrior stands on a serpent with legs. On the same column is the image of another jaguar warrior holding a coiled snake connected to the vision serpents. In his other hand, he holds a jar and is pouring water. Both these sections have a blue band around the scene, filled with aquatic imagery. The overall meaning seems to link sacrificial activities of warriors to fertility.

- The south jamb is also bordered by blue water with the same kind of fertility symbols. This time, an eagle warrior holds a double-headed-serpent bar at his chest—just like the Classic Maya kings. This eagle warrior is standing on a feathered serpent. What a telling image: a Maya who is an eagle warrior is standing on Quetzalcoatl, which is Teotihuacan's authority.

- Next to the eagle is a black shell from which a red-haired figure emerges. This is the Maya symbol of the old man who tweaked the moon goddess's breast. It is clear that Cacaxtla had Maya influence—perhaps even cultural domination.

The Red Temple

- At Cacaxtla, the murals at the Red Temple reveal both how and why the Maya arrived. The Red Temple's symbols are not about warfare; they are about fertility. They depict water flowing and a large toad hopping through it. At the base of the steps is God L, the Maya god who lives in the underworld.

- But God L is also a merchant god; we see this god abundantly in Maya Classic imagery. Inside his backpack are all sorts of particularly Maya items: quetzal feathers, cacao, and jaguar pelts. The merchant's name glyph is 4 Deer, which oddly, is neither a Maya nor a Teotihuacan name. It's more a tradition from Central Mexico.

- This merchant represents another important clue to the Terminal Classic transitions. The merchant is walking toward a group of

warriors; in fact, merchants did reconnaissance missions for the Aztec before military conquests. But this merchant is a Maya. Cacaxtla demonstrates to us that the Maya were involved in creating an Aztec tradition.

Xochicalco: A Fortified City

- Xochicalco's dates are the same as those of Cacaxtla, 650 to 900, almost ensuring a link between the two. Xochicalco sits on a huge hill, with six smaller ones below. All three levels of the city are walled, and terraces connect each of the hillsides. It's a complex and well-fortified place. It has been estimated that its population was somewhere around 20,000.

- There was not much farming around Xochicalco; the city must have relied heavily on trade imports. The lowest level of the city was mostly residential compounds. In the middle level were the public ceremonial spaces. Also on the middle level is a ball court that is one of the three largest in all of Mesoamerica. The larger ones are found at Chichen Itza and Tula.

- A causeway leads up to the ball court, and another leads down from the top level. There are 21 altars lining the causeway, part of a theme at Xochicalco—calendars in time. Each altar relates to a different month in the calendar.

- On the upper level are the private ceremonial precincts. The hilltop was shaved off there and flattened. The platform on top of it was apparently built quickly. Building Xochicalco had to have been a massive effort. The inhabitants had to create large, safe places—and quickly. The city also had a large internal water system that would be useful if it were under siege.

- Xochitecatl also contains a cave with a zenith passage tube that is 8.7 meters long. Light through this long tube can strike the interior cave only on May 15 and July 29—the two times at Xochicalco when there is a zenith passage. This fits in with the calendrical

theme of the city. Only two other zenith passage tubes are known in Mesoamerica—at Teotihuacan and Monte Alban.

Temple of the Feathered Serpent

- At the heart of the plaza on top of Xochicalco stands the Temple of the Feathered Serpent. Perhaps no other building in all of Mesoamerica is such a clear example of the blending of Teotihuacan and Classic Maya ideas—made after both faded away. Right in the center of the main top plaza are two temples that stand side by side—the Temple of the Feathered Serpent and the Twin Temple. The Feathered Serpent is covered with carvings and the Twin is absolutely blank. Both temples are in Classic Teotihuacan *talud-tablero* architecture.

- The Temple of the Feathered Serpent has the same iconography as the Temple of Quetzalcoatl in Teotihuacan itself. In the Xochicalco temple, feathered serpents move across the sides and shells float in the background. But there are Maya elements, too. A snake's body undulates throughout, and above and below are figures in Maya dress and headdresses. Some are priests and others are warriors. Calendar glyphs are seen along the *tablero* faces.

- One of the calendar glyphs has arms and is roping in another calendar glyph. The roper glyph is a Maya day name. The one being roped is the next day in sequence—but from the calendar of Central Mexico. The message is absolutely clear: The Maya calendar has captured that of Central Mexico.

- The Temple of the Feathered Serpent tells the story of the Terminal Classic in Central Mexico. Just like the Cacaxtla murals, it reveals that the elements of the old power players, such as Teotihuacan and the classic Maya cities of the south, were combined into a new form of political legitimacy. Cacaxtla and Xochicalco represent the intrusion of Maya culture and people into Central Mexico.

- Both Cacaxtla and Xochicalco were destroyed by 900. The cities represent the transition toward what would become the powerful

Toltec domination of the entire region. In the next lecture, we'll examine the city and culture that arose out of Cacaxtla and Xochicalco: the Toltec and their capital at Tula.

Suggested Reading

Adams, *Prehistoric Mesoamerica*.

Coe and Koontz, *Mexico*.

Questions to Consider

1. Do you think Cacaxtla and Xochicalco should be considered the same culture group as the term *Olmeca Xicalanca* suggests?

2. Do you think the cities represent a Maya military entrada to Central Mexico or just a cultural exchange?

3. Who do you think burned these two cities down?

The Toltecs—Role Models or Myth?

Lecture 29

According to the Aztec, the Toltec were the greatest civilization on earth. To be civilized was to be Toltec. The Aztec kept lists of the Toltec kings and their mighty deeds. *Toltecatl* meant "master artist," and the Toltec were said to be the originators of numerous art forms and the masters of metalwork and jewelry. Strangely, however, archaeologists have found surprisingly little evidence of the Toltec civilization and culture. But archaeology has found their capital city: Tula. The Aztec called it Tollan, or Place of Reeds, a connection to the origin myth. In this lecture, we'll debate the evidence of the Toltec and determine whether they were a mighty power or a myth.

The Aztec Emulate the Toltec

- Just as American architects modeled public buildings after Greek temples, Aztec architects imitated Toltec temples. Toltec art forms are found all over Aztec public buildings. The Aztec excavated Tula and brought back ancient pieces for display in their own capital.

- The Aztec believed they shared cultural origins with the Toltec; both were a mixture of north and south people. The Toltec were part Chichimec, the savages from the north, but they were also part Nonoalca, the civilized people from the south. Not only the Aztec but also the Zapotec, Maya, and Tarascans were in awe of the Toltec. But archaeology cannot confirm the existence of a Toltec empire.

- It is possible that the legend of the Toltec was Aztec propaganda. We know that the Aztec rewrote their history. A generation before Spanish contact, an Aztec historian ordered all the history books burned, and he re-created a new pro-Aztec version of history. Even after the Aztec were defeated, legends of the Toltec's greatness persisted. In fact, one of those Toltec legends—the legend of

Quetzalcoatl—was instrumental in the Spanish empire's defeat of the Aztec.

Legend of Quetzalcoatl

- The legend of Quetzalcoatl recounts an epic fight between two Toltec rulers—or perhaps gods—that resulted in the expulsion of Quetzalcoatl from the capital city of Tula. He sailed east but vowed to return some day and reclaim his throne. That legend was key to Cortes's success against the Aztec. The Aztec king Moctezuma was focused on it. Quetzalcoatl's return was prophesied to occur in the year 1519, and Cortes landed in that very same year.

- A few years earlier Moctezuma had received a prediction of the defeat of Aztec civilization. It was to be at the hands of foreign invaders from the east, and Moctezuma would lead them to the end. Moctezuma had his priests search the prophecies, and he found the legend of Quetzalcoatl.

- The legend of how Quetzalcoatl was expelled begins with two men co-ruling Tula. Quetzalcoatl was the head priest, and Huemac was the political leader. The god Tezcatlipoca plots to humiliate them and to destroy Tula.

- First, Tezcatlipoca tricks Quetzalcoatl into drinking; Quetzalcoatl gets so drunk that he sleeps with his own sister. This is a terrible scandal; the people reject him as impure, and he's shamed. To trick Huemac, Tezcatlipoca transforms himself into a naked chili salesman in the market. Huemac's daughter falls in love with him and they marry. The citizens, however, are upset that their princess would marry this merchant. Tezcatlipoca's final disguise is as an old woman roasting corn in the market. When any of the starving citizens try to enjoy the corn, they are killed.

- Both Quetzalcoatl and Huemac are in complete despair; they flee the city and abandon the people. Huemac goes to live in a cave for the rest of his life, in a place the Aztec knew well—Chapultepec, very near to the future Aztec capital. Quetzalcoatl and his followers

go east to the ocean. There, they build a snake boat and sail away. But they vow that they will return in the year 1 Reed—or 1519. And then, by coincidence, Hernan Cortes lands on the shores of Mesoamerica that very same year.

Similarities between Tula and Chichen Itza

- The first scholars to study Mesoamerica subscribed to the notion of an all-powerful Toltec empire. For quite some time, investigations supported that hypothesis. Desire Charnay was the first researcher to study the Toltec. Of French background but living in New Orleans, Charnay led expeditions for France to the Maya area and excavated at the site of Chichen Itza in the Yucatan.

- Charnay was the first to note striking similarities between Tula and Chichen Itza. Both cities had the same kind of art and used the same building styles. Charnay decided that these similarities fit the legend of Quetzalcoatl. He theorized that when Quetzalcoatl left in his snake boat to the east, he landed on the shore of Yucatan, went inland, and conquered Chichen Itza. He theorized that Chichen Itza was, in fact, the new capital of exiled Quetzalcoatl. This theory was also proof of Toltec supremacy and command of the region.

- Research in Tula continued in the early 1900s; archaeologists determined that the city flourished between 700 and 1200 and ended just about when the Aztec said it did. Studies indicated that Tula was the Toltec capital.

- Evidence of the existence of a large and powerful Toltec empire is still missing to this day, however. It may never have existed. There is no evidence of its control over Central Mexico. To the east was El Tajin; to the southeast was Cholula; and directly to the south was Xochicalco.

- In 2002, Aztec specialist Michael Smith suggested that historians should downgrade the Toltec from empire to simply kingdom. Other scholars have speculated that Chichen Itza in fact established Tula, not vice versa.

Tula Grande and Tula Chico

- There was no significant archaeological research at Tula until the 1960s. Two project teams, one led by INAH and one by the University of Missouri, discovered what Tula was—and was not. The INAH team focused on the public buildings and temples; the UMC project focused on the residential areas. Between the two project teams, archaeologists have a much better picture of Tula as a whole; but their findings do not support the idea that Tula was the capital of an empire.

- Tula's setting was similar to those of other Terminal Classic sites. It was located on top of a ridge, with two rivers below. The two different sections of the city are known as Tula Grande and Tula Chico. Tula's peak population may have reached 30,000.

- Tula Chico is the older part of the city and includes houses and a few small temples. Its start date—600—is significant; this is right after the fall of Teotihuacan. Tula Chico was abandoned by 900. Its end date is also telling; this is exactly the same end date as that of Cacaxtla and Xochicalco, which were also connected to Maya sites.

- Tula Grande is the city center, dating from 900 to 1200. In 1200, like a number of other cities in that area, Tula was burned. Tula reached its height during the Tula Grande phase. Tula's workshops were simple and small; craftspeople mainly worked in obsidian and made pottery. The pottery was not impressive; it was mainly utilitarian: bowls, plates, and jars. The serving dishes with three legs are very diagnostic of Tula.

- However, an unusual set of artifacts was discovered in Tula: ceramic toy dogs with wheels on axles through their feet. This was odd because Mesoamerica never created the wheel.

Toltec Architecture

- Excavations revealed Tula's population to be simple craftspeople. That does not support the Aztec description of a city full of master artists and civilized warriors. Archaeologists know that the Aztec

re-inhabited Tula and excavated its ruins back in the 1400s. Perhaps they looted the city; those who subscribe to the Aztec version of the Toltec believe exactly that.

- Those who need more physical evidence of the Toltec can perhaps find it in Tula Grande. The grandest and most impressive part of Tula is the civic center of Tula Grande. It has the standard set of architectural features—pyramids, plazas, and ball courts—but in a style that's both an homage to the cultures that came before and a celebration of elements that are uniquely Toltec.

- The architecture of Tula's buildings seems to be influenced from all over Mesoamerica. There are hints of *talud-tablero* from Teotihuacan. There are colonnaded halls similar to those in sites far to the north. Tula's ball court looks just like the one at Xochicalco. At the same time, however, there are style elements that are distinctively Toltec.

A Warrior Culture

- Two pyramids stand in Tula's center. Pyramid B is 10 meters tall; the flat carved panels along its base and the statues on top have interesting features. The lower panels depict jaguars and eagles eating human hearts. This image conjures up both warrior cults and sacrifice—much like the images on the murals at Cacaxtla.

- On the top of Pyramid B are some of the most recognizable and celebrated pieces of ancient Mexican sculpture—the Atlanteans. These are four columns carved like warriors. At 15 feet tall, they once supported the temple roof. They have *atlatls* in their hands and wear loincloths and sandals. In the middle of their chests are butterfly pectorals; on their heads are feather headdresses.

- Other columns on the pyramid top also depict warriors. In fact, the temple is clearly dedicated to war. Below and in front are colonnades. Although those columns do not have any carvings, their equivalent in Chichen Itza does have carvings of warriors.

© AlejandroLinaresGarcia/Wikimedia Commons/CC BY-SA 3.0.

The Atlanteans—four columns carved in the image of warriors—probably represent soldiers in their formal uniforms, not dressed for combat.

An Idealized Heritage of the Aztec

- As it turns out, the Toltec were far more important as the idealized heritage of the Aztec than as a verifiable ancient empire. However, regardless of the true size and extent of the Toltec, it remains true that they were the ancestral connection that the Aztec used to validate their right to rule Mesoamerica.

- Archaeology finds that the Toltec were closed in by equally powerful neighbors, then finally defeated in 1200.

- In fact, the legend of the Toltec and Tollan as told by the Aztec would have been rejected long ago if it were not for the existence of Chichen Itza—the subject of the next lecture.

Suggested Reading

Carrasco, *Quetzalcoatl and the Irony of the Empire*.

Diehl, *Tula*.

Kowalski and Kristan-Graham, eds., *Twin Tollans*.

Questions to Consider

1. Why did the Aztecs choose Tula and the Toltecs for their rewritten ancestry? Wouldn't Cholula or Teotihuacan have been a better choice?

2. Do you think the Aztecs could have looted Tula of all of its riches, or was it really the simple city excavated by archaeologists in the 1970s?

3. Why was Tula sitting on the edge of the northern desert? There was better farmland not far south in unoccupied territory.

Chichen Itza—Maya Capital of the Yucatan

Lecture 30

Visited by about 3 million tourists every year, Chichen Itza is the best known of all ancient Maya sites. For archaeologists, Chichen Itza is a great mystery. Despite more than 100 years of study, scholars still debate who ruled Chichen Itza and where its inhabitants came from. In this lecture, we will discover the history of Chichen Itza; explore the two distinct sections of the city, separated by time and architectural style; and examine the Maya influence on Toltec Chichen Itza.

Remade in Tula's Image

- Chichen Itza was clearly the capital of Post-Classic Yucatan; no other site has come near to its size or grandeur. Before it reached its peak population, however, it had a Terminal Classic phase. The difference between those two times is stark.

- There are two main time periods assigned to Chichen Itza. The period from 800 to 1000 is called Maya or Old Chichen. The second period, from 1000 to 1200, is called Toltec or New Chichen. Small populations remained after the Itza people left, but Chichen Itza's history spans about 400 years. It was at its height during the 10th *bak'tun*: 830 through 1224. In this lecture, we'll start with the later phase of Chichen Itza, 1000 to 1200, which is the time of the Toltec Chichen.

- Around the year 1000, Chichen Itza's art and public architecture changed radically. It seems to have been remade in Tula's image. About that time, its population soared to nearly 40,000. The Temple of the Warriors, constructed during that phase, looks very much like Tula's Pyramid B.

- The Temple of the Warriors has the same flat-roof design found at Tula. Although the flat roof was appropriate for Tula because it was in an arid location, it does not make sense in Yucatan, which gets

much more rain. The roof was in obvious imitation of the ones in Tula. On a bench in Chichen Itza were smaller illustrations of the same Atlanteans seen in Tula.

- The Temple of the Warriors also depicts images of jaguars and eagles eating hearts—images that were most likely influences from Central Mexico. The temple was connected to a colonnade in a complex called the Temple of a Thousand Columns. The colonnade columns at Chichen Itza are carved with images of warriors carrying *atlatls*. Just like Tula's Pyramid B, this building was clearly connected to war.

The Largest Ball Court in Mesoamerica

- Multiple low platforms are placed around Chichen Itza's main plaza. Called Venus platforms, each has an image of the Venus deity from Central Mexico, as well as eagles and jaguars eating hearts. A line of Venus platforms leads from the Temple of the Warriors to another Toltec feature—a skull rack. The skull rack is next to Chichen Itza's ball court, as it was in Tula.

- At 150 meters long, Chichen Itza's ball court is the largest in all of Mesoamerica. Themes in its carved stone images and painted murals focus on conquest and foundation. Interestingly, these images may help us understand exactly what happened at Chichen Itza.

- Panels along the walls in the ball court show ball teams meeting each other. The ball is in the center with a skull inside—an image of sacrifice. Two team captains—Captain Sun Disk and Captain Serpent—stand around the center ball, and one has lost his head. Seven snakes are spurting out of his head like blood. This has been interpreted as a Toltec team versus a Maya team.

- Captain Sun Disk and Captain Serpent also meet in battle on another mural in the ball court area. This mural is located in the Temple of the Bearded Man. The mural depicts a battle scene and an arrival by sea. Again, Captain Sun Disk is defeated.

- Traditionally, this has been seen as proof that the Toltec arrived by sea and took Chichen Itza. In this scenario, Captain Serpent is Quetzalcoatl. But there are those who disagree with this hypothesis. There is contradictory evidence, especially in terms of dating. For example, Chichen Itza's ball court marker actually says it was established in 864.

Maya Influence in Toltec Chichen Itza

- In fact, archaeologists have identified a great deal of Maya cultural influence in what has been called Toltec Chichen Itza. This could have several interpretations: There was a Toltec tolerance of Maya tradition; there may not have been a clear Toltec domination; or the Maya placed their stamp on Tula, not vice versa.

- There's no doubt that Quetzalcoatl was especially honored at Chichen Itza. He's everywhere in the Toltec section. Nowhere is Quetzalcoatl's importance seen more clearly than on Chichen Itza's main temple, El Castillo.

© Gizelka/iStock/Thinkstock.

El Castillo sits at the heart of Chichen Itza's ceremonial precinct; it is a beautifully ornate structure with staircases on all four sides.

- On the top of El Castillo and down its north balustrade are feathered serpents, marking it as a temple of Quetzalcoatl. Although it shows both Toltec and Maya influences, it is much more Maya. In its construction, it resembles buildings at Tula. It also has feathered serpent columns at its doorway, but those are not seen in the Toltec capital at Tula.

- The measurements and details of the pyramid base are inspired by numerology and astronomy—a purely Maya approach. The pyramid's four staircases have 91 steps each. If the top platform is added, that's 365 steps—one for each day of the solar year. The pyramid also has nine terraces—another peculiarly Maya number. What's more, there are 52 shallow niches in each one of the terraces. By contrast, there is no sign of calendrical numerology at Tula.

Cenote of Sacrifice

- El Castillo's northern staircase points to Chichen Itza's primary cenote—the cenote of sacrifice. That cenote is actually what gives the city its name. *Chichen Itza* means "at the mouth of the well of the Itzas." A raised causeway leads 400 meters from El Castillo all the way to this cenote. By contrast, Tula has no causeways. Human sacrifices were thrown into the well—a practice that continued up to the Spanish contact.

- The cenote at Chichen Itza is called the Well of the Itza (not the Well of the Toltec). Dredging projects at the cenote have produced human bones and some surprising items. The first and longest dredging project was conducted by Edward Thompson from 1903 through 1910. He discovered bones and pottery through dredging; then, during a dive, he found a golden disk that was actually made in Oaxaca. He also found turquoise and copper bells—which were from Chaco Canyon in New Mexico.

- Here was clear evidence of a long-distance trade network. Since Tula had no metal, this was Chichen Itza's network alone. One particular object found in the cenote is puzzling: a stucco bust from Palenque. Either this was a Post-Classic excavation by Chichen

Itza in Palenque, or it was an offering actually thrown in the cenote in the 8th century. Some sections of Chichen Itza suggest that the cenote was indeed that old.

Maya Chichen Itza

- A section of the city just south of the Toltec area is much older and more purely Maya. In fact, the city's ceremonial core is really split into two distinct parts—north and south. The south section is often referred to as Maya or Old Chichen. Its architecture is built in Puuc Maya style, like Uxmal and the Terminal Classic cities just to the southwest of Chichen Itza.

- The dates of this section are from 800 to 1000—and possibly earlier. The architecture is undeniably Puuc Maya; the corners are covered with Chaac masks. There is latticework on the façades just like that at Uxmal. Just the fact that this section remained standing is telling. If the Toltec really came to dominate the place, they would not have left a trace of manifestly Maya architecture.

- The most famous structure in the south section of Chichen Itza is El Caracol, or the Observatory. Its cylindrical form is unique at Chichen Itza. There is nothing Toltec about it; it is Maya in design and located in the Maya section of the city. It was so important that Mayapan—Yucatan's next capital—would erect an imitation of it.

A More Nuanced History of Chichen Itza

- Temple hieroglyphs at Chichen Itza dating from 832 to 950 are in a style from the Peten, not Yucatan. Around 950, texts become more Yucatan in wording and style. The Peten-influenced texts speak mostly of gods, not men. They tell of an early leader, perhaps a founder. His name is Kaku Pakal, meaning "fire is his shield."

- Kaku Pakal is first mentioned in 869. He is also called a western tree lord, which is a title from the Peten. The theory is that Kaku Pakal's father was from the Peten, and he married into the local Chichen royalty, Kaku Pakal's mother. Her bloodline was the important one to emphasize, not his. Despite how clearly the story of Quetzalcoatl's

exile from Tula seems to fit the Toltec art and architecture, a much more nuanced history is now coming into focus.

- Here's how the story of Chichen Itza might read: Around the year 800, Maya refugee elites from the Classic period collapse of the Peten migrated up into Yucatan and intermarried. Then, a council form of government of the Yucatan was established, with Chichen Itza as its capital. The 980 shakeup in Central Mexico shifted trade networks, and Chichen Itza became a point of contact—taking on a more international identity and, hence, Toltec art and architecture.

- Although archaeologists do not know when Chichen Itza began, we know when it ended. According to Maya documents, the year was 1224—also the end of the 10th *bak'tun* and the start of the 11th. In that year, everything changed, and the Itza simply walked away. As we'll discuss in the next lecture, a new capital of Yucatan then emerged: Mayapan.

Suggested Reading

Andrews, *Maya Cities*.

Coggins, *Cenote of Sacrifice*.

Edmonson, trans., *The Ancient Future of the Itza*.

Kowalski and Kristan-Graham, eds., *Twin Tollans*.

Schele and Friedel, *A Forest of Kings*.

Schele and Mathews, *The Code of Kings*.

Questions to Consider

1. Despite the problems, the elements of the Toltec myth of Quetzalcoatl seem to fit Chichen Itza nicely. Do you think it could be true?

2. Why, after hundreds of years of a kingship system, would the Maya choose to shift into a council system of government?

3. Do you think it was right to dredge the Sacred Cenote, or should such religious objects be left alone?

League of Mayapan—Maya New World Order

Lecture 31

As Chichen Itza declined, Mayapan rose to power. This city was the seat of a more representative government that heralded in an era of prosperity that lasted for more than 200 years. But in the end, that new form of government did not succeed; the city was sacked and burned in the mid-1400s. Mayapan was an obvious imitation of Chichen Itza but not as large or as finely built. In this lecture, we'll explore the establishment of this new capital of the Yucatan, examine the innovative form of government practiced by the League of Mayapan, discuss Mayapan's social structure and eventual adoption of slavery, and record the city's demise at the hands of the Xiu family.

Books of Chilam Balam

- There are two primary sources for the history of Mayapan. One is Diego de Landa's chronicle *Relation of Things in Yucatan*. The second source is the Books of Chilam Balam, documents written by Maya priests in European script accompanied by Maya drawings. *Chilam Balam* means "jaguar prophecy." There are at least nine Chilam Balam books, named for the villages in which they were written.

- The Books of Chilam Balam address a variety of topics, such as ritual songs, calendar rites, and stories, but the history of the region is one of their major themes. They have been called prophecy books because they refer to the *k'atun* cycle. The Books of Chilam Balam do predict the future but in a repeating, cyclical way, not as literal, linear time.

- The *k'atun* cycle was in 13 sets of 20 years—260 years total. Each of the 13 *k'atuns* was called Ahau for the 260-day name on which it mathematically occurred—the cycle would go from 1 Ahau to 13 Ahau. Chichen Itza fell from power during 8 Ahau, and according

to the Books of Chilam Balam, Mayapan fell in 8 Ahau, as well—but 260 years later.

League of Mayapan

- Based on the archaeological evidence, the end of Chichen Itza was not a violent one; no structures were burned or destroyed. However, both Landa's account and the Books of Chilam Balam report that the establishment of the new capital at Mayapan was brought on by a rebellion.

- The Books of Chilam Balam indicate that the Yucatan Maya rebelled against Toltec and Itza Maya rule. The rebellion was led by the Cocoms, a powerful family in Yucatan. The Cocom family was part of Chichen Itza's council. In the 800s, the name *Divine Cocom* was written in the hieroglyphs on Chichen Itza's Akab Dzib building.

- The Cocom family established Mayapan and invited families from all over Yucatan to participate in a new government—an improved, more representative version of Chichen Itza's council, called the League of Mayapan.

An Imitation of Chichen Itza

- Mayapan looks like a replica of Chichen Itza; its major structures are blatant copies of those first built at Chichen Itza. However, closer inspection also finds some telling differences. The two major buildings, El Castillo and the Observatory, are clear copies. The fact that the Observatory was reproduced suggests the importance that Mayapan placed on that structure. However, Mayapan's version of the Observatory is neither as large nor as well built as the one at Chichen Itza. The Observatory sits right next to the primary temple, El Castillo.

- Mayapan's El Castillo is also a lesser replica of the original at Chichen Itza; it is only 15 meters tall, not 24 meters, as is the one at Chichen Itza. On the sides of El Castillo are stucco art panels that reveal Mayapan's focus on sacrifice. The panels show skeletal

© Pavel Vorobiev/Wikimedia Commons/CC BY-SA 3.0.

In Mayapan, the Observatory was given prominence as an established symbol of political authority.

human bodies with bee wings. The niches in the terraces are places to put real skulls. Even though the League of Mayapan was a council to represent everyone, the city still had enemies to sacrifice. It was not the harmonious region it was reported to be.

Lack of Urban Planning

- Although Mayapan's two main structures were copies of those at Chichen Itza, the overall city plan was new. A significant addition was dozens of long structures with many columns located in the city center. Archaeologists believe that these were the council houses, where the representative families stayed while they were participating in the government.

- Mayapan also has a clearly different aesthetic. Chichen Itza looks as if it was master planned; all the architecture is unified and cohesive. That's not the case at Mayapan, which looks disorganized and lacks a harmony of orientation and building style. Mayapan is clearly accretional, built without an overarching plan.

- That lack of urban planning was likely the result of the council form of government. There was no unified vision for the city; each family had rights to a certain part of the city, and each put its own stamp on that part alone.

The Walls of Mayapan

- In one aspect, however, the city was united: the need for defense. The most impressive feature of the entire city is the walls of Mayapan. Mayapan had two sets of massive walls—one surrounding the civic center, where the League of Mayapan met, and another around the entire city. These walls not only indicate that Mayapan was concerned with defense, but they reveal important clues about class distinctions within the city's population.

- The city's elite lived in the inner section. The middle and lower classes lived in the outer sections but still within the walls. There were 9.5 kilometers of walls surrounding an area of 4.2 square kilometers. Within those walls, there were 4,000 buildings—which works out to about 982 structures per square kilometer. In fact, Mayapan was the most densely populated city in Maya history.

- Archaeologist Bradley Russell conducted a wide-reaching survey of Mayapan in the 2000s and found settlements outside the walls of the city. In total, Russell estimated that there were 15,000 to 17,000 people living in Mayapan—but that was still less than half of Chichen Itza's population of 40,000.

- Archaeological research revealed a marketplace in Mayapan containing many workshops for ceramics and stucco. Trash pits next to houses were excavated to find out what the populace ate. Interestingly, there was much more meat being consumed in the inner section. Three times as much deer and twice as much turkey was consumed in the elites' inner section. In the end, those kinds of social inequalities may have been the demise of Mayapan.

The Cocom Practice Slavery

- Eventually, the Xiu family rose up and led a rebellion against the Cocom, killing the entire family and effectively ending Mayapan. Archaeological evidence appears to confirm this story. Landa's account starts out with a peaceful and prosperous Mayapan council led by two main positions, a ruler and a high priest. The League of Mayapan was dedicated to the common people, leading missions to assist those in need.

- Then, a group of wanderers, the Tutul Xiu clan, came to Mayapan and settled near Uxmal. They were excellent farmers and made tributes to Mayapan. Eventually, the family gained respect, and its members were allowed to intermarry with the elites of Mayapan. They found themselves a place in the League of Mayapan.

- Without consulting the council, the Cocom family made new trade deals with people from Central Mexico who were stationed in Tabasco. The Cocom allowed the Mexicans outposts within the city. The Cocom family grew very rich from these deals and allowed more Mexicans to stay. The Mexicans brought along armed guards to protect their interests.

- Then, the Cocoms started allowing the poorest in their community to become slaves to the Mexicans. What's more, they started using slaves for themselves. It seems as if the Mexican presence had caused shifts in Mayapan's social structure.

Influence from Central Mexico

- Proof of the entrada from Central Mexico is also found in the archaeology of the city. An annex attached to the base of El Castillo contains murals in Mixteca-Puebla style. The murals depict large sun disks, a symbol that was clearly from Central Mexico. The murals also illustrate warriors from Central Mexico—which would become signature Aztec iconography.

- A later addition to Mayapan was a group of circular temples built in the middle of Mayapan's plaza, interrupting the public space.

Circular temples in Central Mexico were erected in honor of Ehecatl, the Wind God. Ehecatl was also the protector of the Aztec trader warriors.

- As the practice of slavery expanded, the other council lords grew enraged at the Cocom. But the people from Central Mexico were very well armed. Slowly, however, the local Maya learned the ways of the Mexicans; they learned to use their weapons and craft their armor. Then, when the situation reached a crisis point, the Xiu family led the rebellion against the Cocom.

Dissolution of the League

- According to the Books of Chilam Balam, a large force of Xiu attacked in 1441. Every single Cocom was killed, even the women and children. Archaeology seems to confirm this event. Carbon-14 samples from the burned council houses put the date of destruction between 1400 and 1450. Following this, there are no new constructions or ceramics found in the city.

- The chronicles report that the Xiu took Mayapan, but then pestilence began, and the League of Mayapan was dissolved. Everyone returned to their own territories in 1441. The peninsula was once again fragmented into independent city-states. The Xiu blamed the Cocom family; the Cocom blamed the Xiu. As for the people from Central Mexico, the Maya forgave them. They were allowed to continue living in the Yucatan.

- That was a grave mistake. Those Mexicans were not just trading partners; they were the Aztec, and the Aztec Empire would use its military trade outposts to dominate numerous cultures. The Maya were next in their sights when the Spanish arrived.

Suggested Reading

Bricker, *The Indian Christ, the Indian King*.

Edmonson, trans., *The Ancient Future of the Itza*.

Landa, *Yucatan before and after the Conquest*.

Shook, *The Great Wall of Mayapan*.

Questions to Consider

1. Why did Mayapan have such extensive walls? Do you think the walls were primarily for defense or more about socioeconomic order?

2. If Mayapan rejected what Chichen Itza stood for, why did it imitate the larger city's architecture?

3. Do you think the Chilam Balams should be considered valid historical documents or stories?

Mesoamerican Religion

Lecture 32

Mesoamerican religion is a labyrinth of belief systems—polytheism, ancestor worship, animism, shamanism, and time veneration—interconnected with one another to create one of the most complex and poorly understood religions in the world. In this lecture, we'll explore the evolution of the multilayered system of religion in Mesoamerica, examine the sacred calendar, and focus on the religious practices and deities of the Maya, Teotihuacan, and the Aztec.

Layered Belief Systems

- All Mesoamerican cultures are polytheistic; the people believe in multiple gods envisoned in a kind of pantheon. Mesoamericans also practice ancestor worship, the veneration of deceased ancestors. The practice is more than simply veneration, however; descendants make contact with the spirits of their ancestors and seek their help in the living world.

- Layered on top of the worship of gods and ancestors is animism: the belief that everything has a living spirit—not only humans but also animals, plants, rivers, mountains, and so on.

- Contact with the supernatural world is done through another aspect of religion: shamanism. A shaman has the ability to travel by dream or trance into the land of the dead and the supernatural and to see and speak to spirits on the earthly plane.

- A final element of Mesoamerican religions is the use of ritual calendars and the concept of a mystical sense of time. Individual days are living beings with spirits. Mesoamericans consider time as a force of nature and pray to the days themselves.

Olmec Religion

- Mesoamerica's first great civilization, the Olmec, produced public art in the form of massive stone sculptures. Although gods and spirits are not evident in Olmec art, there are depictions of Olmec shamanism, which is the main display of religion in their art. For example, humans are shown transforming into jaguars.

- In their art, the Olmec show themselves emerging from caves with figures floating above them. Those images are similar to later Maya scenes of ancestor worship. A common theme in Olmec sculpture is a man emerging from a cave. In some examples, a rope leads out of that cave, and it connects to the sides. On the sides are human figures who are protecting babies who, in turn, are in the process of transforming into jaguars.

- La Venta Altar 5 shows this sort of imagery. The message is that the ancestors are living in caves in the underworld and that they come out to communicate with the living. They are connecting to and protecting their descendants. The fact that the ancestors are floating in the air is telling; it signifies that the ancestors are returning from an ethereal place back to the earth.

- Humans are the main themes of Olmec art. In certain cases, however, there are depictions of animals or abstract monsters. Although some archaeologists interpret those images as Olmec gods, they may be general forces of nature. In fact, the concept of gods first developed in the cultures that followed the Olmec—especially the Maya.

Izapa

- As the Olmec fade and the Maya rise in the mountains to the south, two new elements of Mesoamerican religion take shape—namely, the clear appearance of deities and the development of a sacred calendar. This revolution in religion can best be seen at Izapa, in southwest Chiapas on the Guatemalan border.

- At Izapa are many carved stelae with images from the creation story, the *Popol Vuh*. In these images are multiple references to the

hero twins and their journey into the underworld. This story is a metaphor for a human's ability to pass back and forth between the worlds. The twins' father actually becomes the Maize God at the end of the story.

- Maya gods shown at Izapa that are not mentioned in the *Popol Vuh* include an early version of the Rain God, named Chaac, who becomes a core member of the Maya pantheon. Stela 3 depicts K'awiil, a god of shamanic magic. His most diagnostic characteristic is displayed—his right foot is turning into a snake. Each of these gods became prominent in the Classic period cities.

- As Izapa was celebrating the *Popol Vuh*, other early Maya cities were celebrating the creation of a new calendar, the Long Count. Chiapa de Corzo contains a stela with nothing on it but a date: 36 B.C. The date itself is celebrated; it is a religious icon. The Long Count and the *Popol Vuh* emerged in Maya art about the same time. That is no coincidence: The start of the Long Count is linked to the fourth creation and the *Popol Vuh*.

Main Maya Gods

- Although there are a number of Maya gods, only the major ones are depicted on stone monuments. More appear in the contexts of painted ceramics and in the codices. There is no clear ruler of the gods, however. Like the Maya city-states themselves, the gods share power, and each rules over an independent realm.

- Of the gods depicted on monuments, K'awiil is the most commonly seen. Rulers are shown on monuments carrying staffs with K'awiil on top or holding tiny K'awiil statues. The god of shamanic magic, he is connected to conjuring the ancestors. K'awiil had a different name in the Post-Classic period: Itzamna (*itz* means "magical stuff"). He is frequently depicted in the few codices that remain.

- Chaac, the Rain God, was important to farming. In images, he holds a stone ax, which he uses to crack open the clouds and let the rain out. Equally important to farmers was the Maize God, Hunal Ye.

He is not often depicted on stelae, but rulers are frequently shown wearing his jade lattice skirt. With this, the rulers put themselves in the guise of the Maize God. Their message is: "I am the embodiment of what gives you sustenance, and I am your father" (because the Maize God was the father of the twins).

- One other god comes to light during the Maya Classic period: the Sun God, K'inich Ahau. In the late Classic period, his name actually became a title of kings. He is connected to farming and astronomy.

Gods of Teotihuacan

- The Maya were not the only civilization flourishing in Mesoamerica during the Classic period. The Classic period superpower, Teotihuacan, had a religious tradition and a pantheon of gods that was distinct from the Maya. It is somewhat surprising that Teotihuacan's gods were so different because, in fact, they lived close to the Maya area and most likely shared some sort of Olmec heritage.

- There are three main gods of Teotihuacan: Tlaloc, the Rain God; the great goddess, a kind of Mother Earth; and Quetzalcoatl, the Feathered Serpent. Tlaloc is much like the Maya Chaac. He is associated with the rain but also with warfare and conquest. As discussed earlier, Teotihuacan dominated Mesoamerica for centuries—and did so at the point of a sword. Its power lay in their Venus-Tlaloc cult of warriors.

- Quetzalcoatl is pictured as a giant snake with long, green feathers. By the Post-Classic period, he was everywhere—Cholula, Xochicalco, even Chichen Itza. At Teotihuacan, we see the first temple dedicated solely to Quetzalcoatl.

- The great goddess was a female deity—rare in Mesoamerican pantheons. She is depicted on many murals in Teotihuacan. A goddess of fertility, she is shown in images with Sustenance Mountain, from the origin myth. This goddess is unique to Teotihuacan; she did not make her way into any future pantheons.

- When Teotihuacan fell and new cities emerged, Quetzalcoatl and Tlaloc persisted in public art. Toltec ideas dominated Mesoamerica for centuries, honoring both those deities. Then everything gave way to Mesoamerica's last great civilization, the Aztec.

© Aguilardo/Wikimedia Commons/CC BY-SA 3.0.

The Sun God, K'inich Ahau, is depicted frequently on Maya temples, as on the huge stucco masks found at the Terminal Classic site of Kohunlich.

Aztec Religion

- Because the Aztec were at their height when the Spanish made contact with the New World, archaeologists have more information about the Aztec gods than those of any other Mesoamerican culture. More than 200 gods were recorded in the chronicles, identifying their domains and the ritual offerings they received. However, the information is at times as confusing as it is detailed.

- In some ways, Aztec religion is different than all other Mesoamerican religions. Ancestor worship, so core to Maya religion, was apparently not an Aztec practice. Most dead souls went downward, to Mictlan, which had nine levels. When the souls reached the bottom, they were ruled by Mictlantecuhtli, the Lord of Mictlan.

- Aztec heaven had 13 levels. Warriors who died in battle or sacrifice went there and were privileged to accompany the sun through its daily route. Women who died in childbirth also were permitted to accompany the sun.

Human Sacrifice

- Based on the gods honored in Aztec temples, the following is a short list of the main gods: Quetzalcoatl was a god of wisdom. Tezcatlipoca, which the Aztec say came from the Toltec, had a strong connection to the Maya K'awiil. He has a mirror on his right foot, just like the snake of K'awiil. Both the snake and the mirror are symbols of viewing into the other world. Huitzilopochtli, the War God, was unique to the Aztecs. Aztec mythology states that he led the people south and drove them to war and domination.

- Chronicles record hundreds of Aztec gods. However, each main god has many aspects. For example, the Wind God, Ehecatl, is actually an aspect of the primary god Quetzalcoatl. Thus, there may not be hundreds of gods but simply a few gods with many aspects.

- Of one point we are sure: Aztec religion was sacrifice-oriented. Human sacrifices were needed almost daily. As the Aztec dominated their neighbors, the practice of human sacrifice spread everywhere. By the time Cortes arrived, it was ubiquitous. Human sacrifices appalled the Spanish, and they did everything they could to annihilate the religion. This is one of the reasons we know so little about Mesoamerican religions today.

Suggested Reading

Carrasco, *Quetzalcoatl and the Irony of the Empire*.

Duran, *Book of the Gods and Rites and the Ancient Calendar.*

Miller and Taube, *The Gods and Symbols of Ancient Mexico and the Maya*.

Schele and Miller, *Blood of Kings*.

Questions to Consider

1. Why do you think the Classic Maya used ancestor worship to contact the gods? Why didn't they do it directly?

2. Is it more likely that Mesoamerican religion sprouted from one culture, such as the Olmec, or from multiple locations in the wider region?

3. Why didn't the pantheons of Mesoamerica have a clear king of the gods, as other ancient religions did?

Aztec Origins—Arrival and Rise of the Mexica

Lecture 33

At the time of Spanish contact, the Aztec were the most powerful civilization in all of North America. The Aztec Empire was centered in the Valley of Mexico. The early Tlatilco culture had flourished there, but starting about 1427, it was the Aztec's turn to dominate. Tenochtitlan, the Aztec capital, was a magnificent city situated in the middle of a lake. At its peak, it had at least 200,000 people. The Spanish called it the "Venice of the New World." In this lecture, we'll study the history of the Aztec from their beginnings in Aztlan to the north, describe Aztec daily life and warrior culture, and chart Aztec domination of the Valley of Mexico.

The Aztec World

- The Aztec Empire was not an empire in the traditional sense—it was more like a massive collection system for tribute. Other world powers, such as the Roman, Inca, or British empires, reshaped the world in their image. They put their stamp on architecture, politics, religion, and language. They imposed their culture directly on others. The Aztec required tribute but not a change in culture.

- At the time of European contact, the Aztec area of domination was growing quickly. They controlled most of Central Mexico from coast to coast, and their language, Nahuatl, spread widely throughout Central Mexico. The Nahuatl language is not Mexican; linguistically, it is an Uto-Aztecan language from the southwestern United States.

- The Aztec warrior class was huge. All commoner boys were trained to be warriors. They defended the capital, and they were quickly dispatched if other cultures did not provide their proper tribute. There were two classes of warriors: eagles and jaguars.

- Aztec wealth was based on a commercial economy. Merchants called *pochteca* traveled to source exotic goods. Common folk

traded in the market on a daily basis; 60,000 people were recorded in Tenochtitlan's market every day. Warriors protected the transport of tribute. It was an extremely orderly system.

- Aztec elites were statesmen. Well-mannered and well-spoken, they were lovers of art and literature. Poems and songs were exalted in Aztec society. It was a society that aspired to higher ideals. The Aztec envisioned themselves as having a Toltec heritage. History knows the Aztec as brutal; however, beauty and blood went hand in hand. That was the Aztec world from the mid-1300s up until contact in 1519.

Aztec Origins in Aztlan

- The Aztec did not start out in the Valley of Mexico; they were foreigners who migrated there. Although they were not immediately welcome to the area, the Aztec eventually went from interlopers to overlords of the region.

- Accounts of Aztec origins vary, but all agree that the Aztec came from a place called Aztlan to the north. Chances are that the original Aztlan was actually somewhere near the American Southwest.

- An important historical side note is that a man named Tlacaelel, the brother of Moctezuma I, completely rewrote Aztec history. He ordered every history book in the region burned, and in the mid-1400s, he recast the story of Aztec origins, probably into a new, more complimentary story.

- *Aztlan* means "Place of Herons" and was depicted as an island on a lake—as was Tenochtitlan. The mythological message seems to be that the gods wanted the Aztec to re-create Aztlan in the Valley of Mexico. The name *Aztec* comes from the word *Aztlan*. *Aztecatl* means "person from Aztlan."

- However, the Aztec actually referred to themselves as Mexica, which is the origin of the name of the country Mexico. The name *Aztec* in the literature was a modern invention from Alexander von

Humboldt. He first used it in 1810 to distinguish the ancient Aztec from their modern descendants, the Nahuatl people.

- Aztec legends speak of a location before Aztlan—a mythic place of human origins called Chicomoztoc, the "Place of 7 Caves." All Nahuatl speakers were supposed to have come from those caves. The seven groups from those caves are the original groups in the Valley of Mexico.

Settlement at Coatepec

- Some speculate that the Aztec were driven out of Aztlan. Other accounts note that they were forced to leave because of a drought. Climate studies support the timing of the exodus. There was a huge drought in the southwestern United States from about 1100 to about 1300; the Aztec report that they left about 1200. Archaeology sees mass migrations in the American Southwest at the same time.

- All accounts agree that the Aztec left Aztlan and traveled south, becoming nomadic wanderers. The chronicles name the year 1 Flint as the beginning of their journey. Given that 1 Flint is a day in a 52-year cycle, it is unclear which 52-year cycle is meant. The year 1272 seems to make the most sense.

- The Aztec stopped many times along their way and briefly settled in certain places. Legend has it that the Aztec stopped for a time at a place called Coatepec, or Snake Mountain. Coatepec is another name for Sustenance Mountain—the mythic place of origin. For the Aztec, however, Coatepec took on an extra significance: It was also the birthplace of Huitzilopochtli, the Aztec god of the sun and war.

- Legends say that the Aztec were divided; some wanted to stay in Coatepec, but the priests of Huitzilopochtli said that they had to move on. The crisis came to a head during a night raid, and all those who wanted to stay were killed; the rest of the Aztec moved on. Somewhere around 1300, the Aztec arrived at Lake Texcoco.

Mercenaries for the Culhuacan

- When the Aztec arrived in the Valley of Mexico, the valley was already full of people—descendants of the highly cultured Toltec. The Aztec were outnumbered, outranked, and outclassed. Two groups in the valley were larger than the rest: the Tepanec of Azcapotzalco, who held the northwest shore of Lake Texcoco, and the Culhuacan, who controlled the area south of the lake. The Tepanec allowed the Aztec to settle in Chapultepec, or Grasshopper Hill.

- The city of Azcapotzalco was actually part of Teotihuacan's kingdom; when Teotihuacan fell, it became part of the Toltec Empire. When the Toltec fell around 1200, the Tepanec rose to power in the Valley of Mexico. In less than a year, however, the Tepanec forced the Aztec out of Chapultepec because they were savage and uncultured, and—worst of all—they refused to pay proper tribute.

- The Aztec were forced south, into Culhuacan-controlled land. Culhuacan allowed them to settle in a barren area called Tizapan. That was perhaps the turning point in Aztec history. Because the Aztec had nothing to trade, the priests of Huitzilopochtli ordered them to become mercenaries, to use their skills and honor the War God with their deeds. Thus, they fought for Culhuacan.

- As the Aztec honed their skills as warriors, they gained in strength and respect. What's more, they were rewarded and intermarried with the Culhuacan people. Then, they were given a great gift: a king's daughter was presented to the ruler of the Aztec as a wife—officially inviting the Aztec into the royal dynasty. But then the Aztec did something unexpected: They sacrificed her. The Culhuacan people were furious, and in 1323, the Aztec were expelled.

Capital City of Tenochtitlan

- The Aztec ended up settling in Tepanec lands, but this time, they paid their tribute. They became mercenaries for the Tepanec and stirred up a great deal of trouble in the region. The Aztec began to search for the sign indicating where their new capital should be. Then the priests

saw the sign: an eagle perched on a cactus on a lake on a tiny island. That is where Huitzilopochtli told them to settle.

- The area was shallow, marshy swampland. Using a local farming technique called *chinampa*, the Aztec created usable land from the marsh. The top surface was fertile for planting, and the lake's waters perpetually replenished the nutrients for the fields. Although the Aztec were still officially in Tepanec territory and paying tribute, little by little, they transferred themselves from the lake shore out to the pieces of land they were creating.

- The Aztec named the place Tenochtitlan. The new city was officially established in 1325. By then, there was enough land to live on. And the city grew larger. The capital was easily defensible, and the people could live there autonomously because, along with the land they built, they could create *chinampas* that supplied them their food. Through this method, the Aztec population grew.

- Although their leaders were statesmen, not savages, the Aztec still, at heart, were warriors. They grew their army so large that it began to rival their neighbors' forces. A hundred years passed in this way.

- With the Aztec as their mercenaries, the Tepanec widely expanded their territory. The Tepanec controlled the entire valley and started to control areas beyond the valley. The other cities in the valley that were once Tepanec allies were all now forced to pay tribute. Tepanec dominion increased greatly, but so did Aztec wealth and power.

Birth of the Aztec Empire

- Then, in 1427, the Aztec finally made their move. Itzcoatl, the Aztec ruler at the time, forged an alliance with two smaller local kingdoms, Texcoco and Tlacopan. The three cities, in what was called the Triple Alliance, turned on the Tepanec, and Azcapotzalco was conquered. With the Tepanec gone, the alliance eliminated Culhuacan to the south. The entire valley belonged to the Aztec and their allies.

- The Aztec had gone from a vagabond group of wanderers to the dominant power controlling the entire Valley of Mexico. Itzcoatl took the spoils of war and expanded Tenochtitlan exponentially.

- In 1440, Moctezuma I took the Aztec throne. Moctezuma and his brother Tlacaelel then recast the Aztec public image. All the old history was burned and a new age began. Tenochtitlan became Aztlan reborn. The age of the Aztec Empire had officially begun.

Suggested Reading

Carrasco, *Quetzalcoatl and the Irony of the Empire*.

———, *The Aztecs: A Very Short Introduction*.

Gruzinski, *The Aztecs: Rise and Fall of an Empire*.

Smith, *The Aztecs*.

Stuart, *The Mighty Aztecs*.

Questions to Consider

1. Where do you think the Aztecs came from? Is their migration story fiction or fact?

2. What made the Valley of Mexico such a desirable place to live?

3. Are the Aztecs unique, or did any other ancient civilization migrate into a foreign territory and eventually come to dominate it?

The Aztec Capital of Tenochtitlan

Lecture 34

Tenochtitlan, the Aztec capital, was the most magnificent city in the pre-Columbian New World. It dwarfed every other city not only in Mesoamerica but also in the entire New World. Its amenities and quality of life were unrivaled virtually anywhere on the planet. Built on an island in the middle of Lake Texcoco, Tenochtitlan covered 13.5 square kilometers and housed more than 200,000 people. In this lecture, we will explore the wonders of the Aztec capital, its impressive public works projects and amenities, and its architectural marvels.

Largest City in the New World

- Tenochtitlan was not only the largest city in the New World, but it was created using a unique construction method. The island it sits on was literally created layer by layer, using a farming technique called *chinampa*. It took two years of work to build the city. Little by little, the Aztec people would lash poles together in a pen, then fill up the pens with dirt and mud from the lake. By 1325, the Aztec had enough land to live on and to keep building the city.

- They named the city Tenochtitlan. Some speculate that it was named after Tenoch, the Aztec leader at the time. Others believe that the word *Tenochtitlan* translates to "among stone cactus fruit." The toponym, or name glyph, for Tenochtitlan shows cactuses sitting among stones.

- Tenochtitlan actually comprised two cities. The second part of the city, Tlatelolco, was started about 1358. Although it was Aztec, it was ruled by a Tepanec prince. In 1473, Tenochtitlan officially absorbed Tlatelolco into itself.

- The city had a grid pattern of both canals and streets. Nearly every house, even the poorer ones, had water access. The city did not originally have a grid pattern, however. In 1427, the Aztec

redesigned the city to look more like the city of Teotihuacan to the north. According to Aztec mythology, Teotihuacan was where the Aztec gods were located. In fact, the name *Teotihuacan* means "city of the gods" in Nahuatl.

- Tenochtitlan was divided into four zones called *campans*; the ceremonial center was at the heart of those four zones. The *campans* were further divided into a number of *calpullis*—a neighborhood associated with a certain clan. Each *calpulli* had its own temple, school, and marketplace.

- Three long causeways connected Tenochtitlan to the mainland. Islands surrounded the city, where the Aztec grew food and flowers. Aztec farmers also used terraces on the mainland to produce food.

Massive Public Works Projects

- Tenochtitlan's public works were astonishing; they were absolutely massive projects that required not only a well-organized labor force, but also a sophisticated knowledge of engineering. The causeways to the island were about 40 feet wide. Each causeway had multiple drawbridges, used for defense. Gaps in the causeways also had an engineering function: They allowed the lake water to flow in a normal fashion.

- Inside the main causeway were aqueducts. Because the lake was actually brackish water, the Aztec created two wide pipelines of stone and terracotta to carry water from springs on the mainland. Once the aqueduct reached the city, the system fanned out into the neighborhoods. Many structures in the city had running water, used for washing and cleaning. Drinking water came directly from the springs, and it was sold it in the local market. The Aztec may have been the first in Mesoamerica to drink bottled water.

- Another massive hydraulic engineering project was the levee built by the king Nezahualcoyotl in 1453 after a lake flood. The levee, 16 kilometers long, held back the brackish water, and the aqueducts

pumped in more spring water. This helped purify the water, and it made the *chinampas* grow even more vibrantly.

- To permit canoe traffic, Nezahualcoyotl had the entire wall built out of wooden poles. Between the poles were rocks and earth. Then, floodgates were built along the length, enabling city planners to open them during times when the lake was low.

An Orderly and Civilized Society

- Tenochtitlan also possessed a significant city infrastructure. Public schooling was offered to all citizens. Each *calpulli* had its own school, called a Telpochcalli, or "house of youth." Elite children went to a school called the Calmecac, whose patron was Quetzalcoatl. These children were taught reading and writing and the rituals and calendar cycles. Children entered at the age of 5 and, at age 15, began the military portion of their training there.

- Teams of public service workers kept the city clean and maintained the public lands. A police force patrolled the city and kept the peace.

- The Aztec were lovers of beauty and art. Poets were remembered for generations, and people could recite their works from memory. Artists were exalted as national treasures. Throughout the city were gardens, statues, and works of art. In the center of the city was the Cuicacalli, or "house of song"—an opera house and a music school for youth.

- The Aztec also had a fondness for flowers and plants. Moctezuma himself had a botanical garden with plants from everywhere in Mesoamerica. Cortes's men were amazed by the city zoo. It had two vast sections. The first was devoted purely to birds. A second, larger section held mammals, reptiles, and more exotic birds, such as quetzals. Europe had no zoos at that time. Tenochtitlan also maintained an aquarium, with 10 saltwater ponds and 10 freshwater ponds.

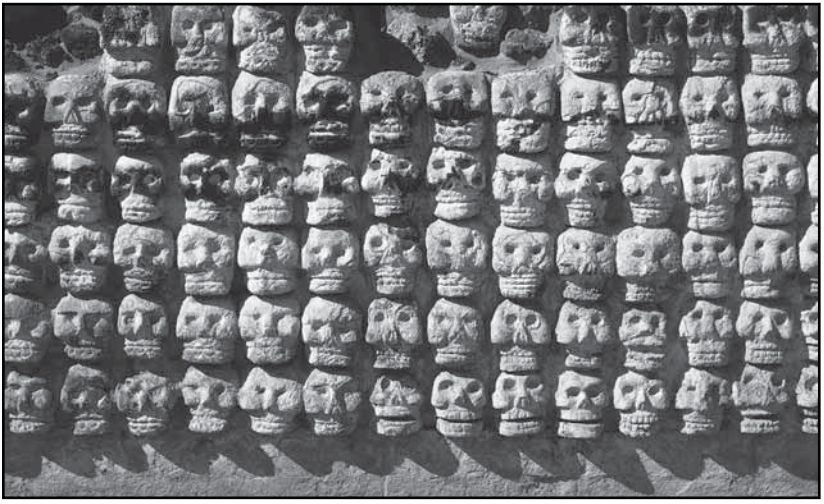
- The Aztec were archaeologists themselves and had a museum of ancient cultures, filled with artifacts. The museum held objects from Teotihuacan, Tula, and the Olmec.

Templo Mayor and Human Sacrifice

- The most impressive sight of Tenochtitlan was undoubtedly its downtown, with the Templo Mayor rising from it like a modern-day skyscraper. The very center of Tenochtitlan was a walled precinct, 300 by 300 meters. Today, it is Mexico City's *zocalo*, or main plaza.

- The largest building within the enclosure was the Templo Mayor. It had one base, but there were two staircases leading up, and on top were two temples. The red temple was dedicated to Huitzilopochtli; the blue temple was dedicated to Tlaloc. Daily sacrifices were made at the top of Templo Mayor.

- To the Aztec, the Templo Mayor was actually a symbolic model of Coatepec, Huizilopochtli's birthplace. Anywhere from 10,000 to as many as 80,000 people were sacrificed in the inauguration of the



© Fuse/iStock/Thinkstock.

According to Cortes, the tzompantli, or skull rack, in front of the Templo Mayor held more skulls than could be counted.

seventh phase of the Templo Mayor. Reports note that for three days, priests were ankle deep in blood. Proof of the many sacrifices was the skull rack, or *tzompantli*, in front of the Templo Mayor.

- Directly in front of the Templo Mayor was the Temple of Quetzalcoatl. Opposite the Temple of Quetzalcoatl was the ball court, a huge, lavish arena. To the right and left of the Templo Mayor stood the houses of the warriors. The eagles were housed to the left and the jaguars, to the right. They brought the sacrifices from war and were honored as the Aztec power foundation.

- Another great temple within the compound was the Temple of Tezcatlipoca. Tezcatlipoca means "Smoking Mirror," and he is depicted with a mirror on his right foot. Tezcatlipoca, the god of magic and the night, was part of Toltec mythology. And he, like the other gods, demanded many sacrifices. Almost the entire precinct was dedicated to sacrifice.

Palace of Moctezuma

- In stark contrast to the central precinct—the location for the practice of human sacrifice and the glorification of war—was the Palace of Moctezuma. The two areas together demonstrate that both beauty and savagery coexisted in the Aztec world.

- Moctezuma's palace had hundreds of rooms. On the second story were the lodgings for visiting nobles or ambassadors; each room had its own private bath. There were hundreds more rooms just for the palace staff. This was a place where Moctezuma's generosity was displayed.

- The bottom floor held meeting halls and tribute chambers, piled with the riches of tribute. The ceilings had beautifully carved cedar beams; on the walls were tapestries and murals. Today, in the same spot, stands the Palacio Nacional.

- The Palace of Moctezuma had a massive dining hall, and there was a feast almost every day. There were 300 plates just on Moctezuma's

table alone. Women washed his hands after he touched food, and in front of him were dwarves, jesters, and singers playing for his entertainment.

Aztec Capitalism

- Commerce was at the heart of everyday life in Tenochtitlan. Every *calpulli* had its own market, and trade was the center of social life. Cortes's men toured the main market of Tlatelolco and estimated that 60,000 people were trading there.

- Every imaginable item was sold. There were streets just for pottery and others for cloth. Another section was for gold and jewelry, and yet another where slaves were sold. At certain restaurants, one could eat food from anywhere in Mesoamerica.

- The government did not control the market; that was the responsibility of the powerful *pochteca* traders. The *pochteca* forged far-flung trade arrangements and presided over the market. The market was a free-trade zone—a kind of Aztec capitalism.

The Sack of Tenochtitlan

- Imagine Tenochtitlan, a magnificent city of more than 200,000 people living in prosperity, enjoying economic opportunities, and surrounded in beauty. Then, imagine the entire city on fire, the people fleeing in horror. That's what happened in 1521 when Cortes sacked Tenochtitlan.

- When Cortes took the city, many Aztec chose to stay. But he immediately rebuilt it in the image of Spain. The Spanish ripped down the Temple Mayor and used the materials to build the cathedral, using local labor forces. This act sent a powerful message to the Aztec—in the words of Cortes, using the rubble of an old religion to build the temple of a new one.

- Houses were torn down and the materials were used to build Spanish palaces for the conquistadors. It was reported just 10 years later that only 20,000 people were visiting the market in Tenochtitlan every

day. Within 100 years, Tenochtitlan was little more than a corpse buried under a Spanish city.

Suggested Reading

Carrasco, *The Aztecs: A Very Short Introduction*.

Diaz, *The Conquest of New Spain*.

Gruzinski, *The Aztecs: Rise and Fall of an Empire*.

Smith, *The Aztecs*.

Stuart, *The Mighty Aztecs*.

Questions to Consider

1. How do you think the Aztecs reconciled their love of the arts and beauty with their gods' needs for brutal human sacrifice?

2. If the Aztec had not been conquered, what do you think the city of Tenochtitlan would be like today?

3. Where else on the planet at A.D. 1500 were so many people enjoying such a high standard of living?

Life in the Aztec World

Lecture 35

Daily life for an Aztec citizen in Tenochtitlan was steeped in religious ritual, strict codes of behavior, and obligations to the community. In this lecture, we'll examine many different accounts of Aztec life—some of which were witnessed and recorded by soldiers at the point of contact and others that were written later by priests who understood the Aztec people and spoke their language. These accounts serve as our sources for understanding what it was to be Aztec.

Witnesses at the Point of Spanish Contact

- Historians draw on a number of sources to learn about Aztec life. Some accounts were written by soldiers, others by priests, and others by the Aztec themselves. All have different perspectives. Some were written during the period of Spanish contact; others were written much later.

- Hernan Cortes, the captain who defeated Moctezuma and took Tenochtitlan, wrote letters to King Charles V of Spain from 1519 to 1521 recording his experiences with the Aztec. These letters include detailed descriptions of events, people, and places. They are significant because they reflect Aztec life before the Spanish influence.

- After the conquest, Cortes commissioned his biography to be written by Lopez de Gomara. This document inspired other conquest accounts—one in particular was by Bernal Diaz, a soldier under Cortes. Diaz wrote his account years later as a response to Gomara's account, which he called "the lies of Gomara." Diaz was in the Yucatan in 1517 and 1518, and he joined Cortes in 1519. He subsequently wrote *The True History of the Conquest of New Spain* as a great adventure story.

Accounts of Spanish Priests

- Although the accounts of Cortes and Diaz are significant because they come from the moment of contact, the authors were soldiers who did not know the people or understand the language. But the priests who came later learned the language.

- Bernardino de Sahagun was a Franciscan who arrived in Mexico City in 1529. He learned Nahuatl and traveled widely in the region. Sahagun spent 50 years of his life chronicling Aztec life. In the end, he wrote a 12-volume series that today is known as the Florentine Codex. Comprising 2,400 pages with illustrations, the Florentine Codex is like an encyclopedia of everything Aztec.

- Sahagun had respect for the indigenous people and a distinct dislike for the conquistadors. He credited all his sources by name, and he recorded all aspects of life that he could view. He was a scrupulous journalist: He would not include an account in his book until he could independently prove it through three different chroniclers. Some call him the father of American ethnography.

- Diego Duran moved to Mexico as a child in the 1540s; he was a Spaniard who grew up Aztec. Duran wrote three books: *History of the Indies of New Spain*, the *Book of Gods and Rites*, and the *Ancient Calendar*. Duran joined the Dominican order in 1556 and wrote his books to alert his fellow priests to Aztec practices and religion.

Experiences of Slaves

- In Aztec society, at the very bottom of the social hierarchy were the slaves. Some were captured in foreign lands and brought into the city. Others were sentenced to slavery for crimes. Still others actually sold themselves into slavery because of debts. Poor families sometimes sold their children into slavery to support the rest.

- The loss of someone's freedom, though, had to be recorded in official documents and decrees. Slaves could still use money, and they could have wives and children. What's more, their children were born free. Slaves could also be bought specifically to be sacrificed.

Experiences of Commoners

- The vast majority of Aztec people were commoners—farmers, craftspeople, laborers, or warriors on a campaign. Common women did the cleaning, cooking, and weaving, and they traded and bought in the marketplace.

- Aztec commoners lived in simple, one-room houses, made of reeds or adobe, with a hearth inside. A number of houses would be grouped around a central patio. Usually, four to five related families shared a patio.

- Although commoners could not become nobles, they could elevate their status by becoming warriors or priests.

Experiences of the *Pochteca*

- Within the middle class were the *pochteca*, or traveling merchants. The *pochteca* sold exotic trade items in the market. Often, they

© AlejandroLinaresGarcia/Wikimedia Commons/CC BY-SA 3.0.

Each group of commoner houses had a *temazcal*, or sweat bath, that was central to domestic and social life.

would go on diplomatic missions for the king or act as spies to assess new lands for conquest.

- Trade missions took months and involved teams of *pochteca*, their apprentices, and professional carriers. The carriers and the *pochteca* were also trained warriors and were always armed.

- The profession of *pochteca* was hereditary. The 12 guilds of *pochteca* in Tenochtitlan controlled all the trade routes and acted as judges in the markets. The *pochteca* could become fabulously wealthy—even richer than the nobles.

Experiences of the Nobility

- The nobles made up only 5 percent of society, but they owned everything. Certain capes and jewelry could be worn only by nobles. The children of nobles attended a special school, called the Calmecac. The Calmecac was mainly for government officials—those who would lead the armies or become high priests. The nobles lived in grand homes built of stone with flat roofs and cedar beams.

- Nobles, however, were held to a higher standard; they were expected to be model citizens. Penalties were greater for nobles than for commoners. Nobles planned the feasts and organized labor teams. In times of war, they led the armies.

Experiences of Royalty

- At the top of society was the king, or Tlatoani, the "Speaker." In the Toltec fashion, the king was first and foremost a statesman. He was also the commander in chief. The kingship of the Aztec was not hereditary, however; the king was elected by a group of nobles.

- The Tlatoani had vast privileges and enormous power. He had a huge palace, many wives, and thousands of servants. All the city lands were his property; nobles were granted land by him; and all taxes and laws were his to decide.

- The Tlatoani also had tremendous responsibility. Technically, he was the high priest, and he oversaw the daily sacrifices. He also served as the general of the army. Political relationships with other kings were led by the Tlatoani. He was the father figure and spiritual leader of everyone in Aztec society.

Children and Home Life

- The official name of an Aztec baby was given by the priests. Although nobles were given elaborate names (for example, *Moctezuma* means "Angry Lord"), most commoners were given the day of their birth as their name. If a baby was born on 5 Eagle, that was his name—and his destiny.

- School was mandatory for children. Boys and girls learned basic skills. Boys were trained as warriors, and every Aztec male had to serve in the army. The number of captives he caught in a lifetime was the measure of a man's worth in society.

- Marriages were arranged by the relatives and teachers of children. Men were to marry by the age of 20, but girls were married much earlier, about age 10 or 12. Soothsayers would pick the day for the wedding.

- As adults, women did the weaving, cooked, cleaned, and shopped in the marketplace. Men farmed, built, and fought battles. Some men were artisans, but they were still required to be warriors when needed. All activities were done by order of the calendar. There were good days and bad days for certain activities. No farmer could harvest unless the priest said it was the right day to do so.

- The raising of children was of the utmost importance. Parents were supposed to be focused on the upbringing of their children and act as proper role models. Most of their income was to be spent on their children and to help support their elders. Adults had responsibilities, both to the old and the young.

Yearly Cycle

- As a society, all Aztec participated in the monthly festivals. There were 18 months of 20 days each, then a 5-day month. Each month had its own theme and activities. Some of those festivals were quite picturesque, and others were downright macabre.

- The first day of every month was a feast day. Any day that started with the number 1 was a day that the Aztec would honor all the people of that day sign. For example, if the first day was 1 Crocodile, every person with the name Crocodile in the Aztec capital would be honored.

- The 1st month was March. Called Touch the Bouquets, on this month people went around touching plants, and they offered food to the gods. The goal was to ask for a fruitful year. The 2nd month occurred 20 days later, on March 21, the spring equinox. This month honored the god Xipe Totec, otherwise known as the Flayed One.

- The 8th month, when corn was ripe, was July. During that time, a virgin was sacrificed, along with four men. The 11th month was the Day of Sweeping; everywhere, everything was cleaned: homes, streets, even the rivers and streams.

- The 12th and the 15th months were in honor of Tlacaxipehualiztli. The 12th month was about his birth; when the priests announced it, everyone rejoiced. But the celebration involved severe bloodletting. Everyone in the party would cut themselves many times and rub the blood over themselves. The 13th month was called Great Moss, when the volcanoes were honored, especially Popocatepetl.

- The 18th and final month was Growth. The planting season began then, and the Aztec ate special foods—amaranth leaves and corn. That same month, a boy and a girl were sacrificed to Tlaloc, to ask for rain for the newly planted crops. At the end of the solar year cycle were five extra days. Then, the next year began again with 1 Crocodile, and the festival of the year renewed itself.

Suggested Reading

Carrasco, *The Aztecs: A Very Short Introduction*.

Coe, *America's First Cuisines*.

Duran, *Book of the Gods and Rites and the Ancient Calendar*.

Gruzinski, *The Aztecs: Rise and Fall of an Empire*.

Leon-Portilla, *Fifteen Poets of the Aztec World*.

Smith, *The Aztecs*.

Stuart, *The Mighty Aztecs*.

Questions to Consider

1. How could the Aztecs willingly sacrifice children on an annual basis?

2. What would you do if you were an Aztec born on one of the days considered bad or evil?

3. In balance, could we say there was gender equality in Aztec society?

How the Aztecs Expanded Their Empire

Lecture 36

By the time of European contact, the extensive Aztec Empire had conquered more of Mesoamerica than any other civilization. Their empire was not a traditional one, however, and its shortcomings made control of the empire tenuous at best. In this lecture, we'll discuss how the Aztec dominated their world and debate whether or not it was a true empire.

A True Empire?

- The Aztec Empire extended from coast to coast in Central Mexico; it reached into Oaxaca and dominated Mixtec lands; and it encompassed a large area of the Soconusco, as well. Aztec dominion was commercial, not cultural. The Aztec demanded tribute but not assimilation. The conquered lands were left to their own leaders, politics, and religion. For that reason, some scholars assert that theirs was not a true empire.

- Traditionally, when we think of empires, we consider such cultures as ancient Rome civilization. The Romans imposed a new world order; they created a new infrastructure; they built roads, temples, and administrative buildings; and they sent government officials to regulate their lands and garrisons of soldiers to maintain control. What's more, they imposed their language and religion on conquered peoples.

- An example of a traditional empire from the New World is the Inca, an empire of 10 million people under the same rule. Every territory was connected by roads, and every community was outfitted with new buildings. Language and religion were uniform—everyone had to follow the Inca way. Tax collectors were in every city, and everything was administered from a single capital, Cuzco.

- In contrast, all the Aztec wanted was tribute. They dominated cities but only to acquire taxes. They built no new roads, fortresses, or temples. Religion and local leaders were left alone.

- The Aztecs were not the only conquerors to function in this way. Consider Alexander the Great. Greece controlled wide areas but left local cultures alone. For example, the Greeks conquered Egypt but left its religion intact. Perhaps the connection here is the city-state model both in Greece and in Mesoamerica. Although the Aztec did not impose their culture, just as the Greeks, theirs should be considered an empire.

- Some scholars identify two kinds of empires—territorial and hegemonic. Rome controlled a territorial empire. Athens and Tenochtitlan maintained hegemonic empires. The Aztec did not invade the Valley of Mexico as an empire; rather, they were a group of ruffians following a cult of war. Empire building was a trick they learned from the already established cultures of the valley.

The Triple Alliance

- When the Aztec arrived, the Valley of Mexico—at that time called Anahuac—comprised a group of city-states called *altepetls*. Each controlled its own territory, and each had a capital city and a Tlatoani, or king. Tenuous alliances were maintained through trade, intermarriage, and border control. Settling in the Valley of Mexico, the Aztec learned that their skills in battle could be leveraged to create a steady stream of wealth. Together with the Tepanec, the Aztec created a network of dominated tribute payers—in other words, an empire.

- In 1425, the Tepanec ruler, Tezozomac, died, and his son Maxtla took over. Maxtla was too forceful in his control, however; he attacked the city of Texcoco for rebelling and forced its king, Nezahualcoyotl, into exile. Maxtla also assassinated the Aztec leader, Chimalpopoca, which infuriated the Aztec.

- The new Aztec leader, Itzcoatl, teamed up with Nezahualcoyotl and the city of Tlacopan, and together, they overthrew Maxtla. They took over the entire valley and formed what became the Triple Alliance in 1427.

- Moctezuma I became the Tlatoani of the Aztec in 1440. He and Nezahualcoyotl inherited the Tepanec tribute system and divided up the wealth between themselves and Tlacopan (which received a smaller portion).

From Raiders to Rulers

- For the Aztec, the next step was to change their public image, which they did by rewriting history. They portrayed themselves as a chosen people. They claimed that they were the lost tribe of Aztlan and were brothers with every other culture in the valley. Although they were the Mexica, everyone was an Aztec—meaning a person from Aztlan. That story was created by Tlacaelel, the brother of Moctezuma.

- Tlacaelel was the archetypal "power behind the throne." He devised the Triple Alliance and created a new code of laws and public behavior. Nobles were afforded new rights according to those laws. He increased their military presence and the frequency of their sacrifices. He also established new standards for tribute, increasing it significantly.

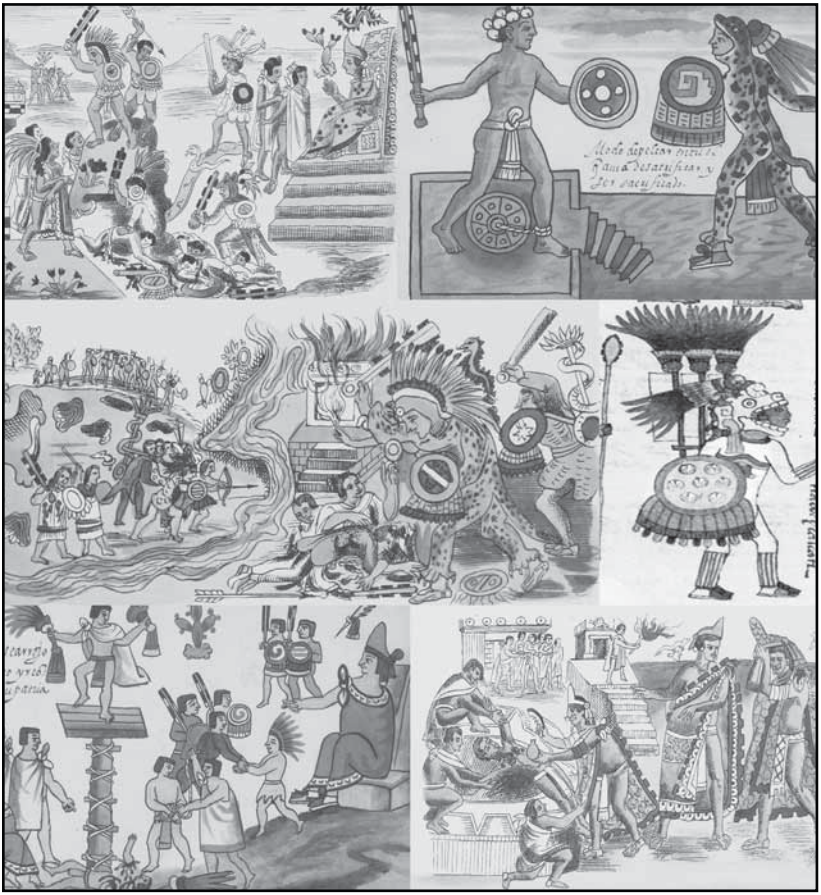
- But most important, Tlacaelel rewrote history. He ordered all the old history books burned, especially the histories about tribute states. There was no memory of who the Aztec used to be. He set the stage for Mesoamerica to accept the Aztec as the divinely chosen leaders of the new empire.

- The Aztec had gone from raiders to rulers. Along with their partners in the Triple Alliance, they had broken the yoke of Tepanec dominance. Now their task was to take the Tepanec's place as leaders of the Valley of Mexico. Many cities were already in the

Tepanec sphere of influence, and many others submitted readily. But if they did not comply, they were attacked.

The Flowery Wars

- Under the Aztec, a new system of tax collection was established, territory boundaries were reformed, and alliances were reset. One by one, the Anahuac city-states were absorbed into the empire.



© Mabarlabin/Wikimedia Commons/CC BY-SA 3.0.

Tlacaelel claimed that he maintained hostilities with the people of Tlaxcala on purpose—because they provided sacrifices for the Flowery Wars.

Chalco on the lake shore was the last, largest, and most resistant. It suffered repeated attacks by the Aztec.

- Then, beginning in 1446, a terrible drought came to the Valley of Mexico. People were starving, and many migrated out of the valley. Tlacaelel maintained that the gods needed more sacrifices, and he inspired—or invented—the so-called Flowery Wars to capture warriors for sacrifice. Of course, the Aztec took this opportunity to wage those ritual wars against Chalco.

- After two decades of Flowery Wars, Chalco finally fell to the Aztec in 1465. With Chalco under control, the valley was finally unified. Endemic war, at least in that area, was over. And, as promised, economic prosperity followed.

Empire-Building Strategies

- Moctezuma I and the Triple Alliance had even bigger plans for expansion and domination of foreign lands. The first step to expansion was assessment. In this mission, the *pochteca* were key. A group of international traders very loyal to the Aztec, the *pochteca* established permanent trading outposts, which they used to assess the resources of an area.

- Eventually, those trading outposts became garrisons, and the local leaders would be invited to the Aztec capital of Tenochtitlan. At that impressive capital city, they would witness the sacrifice ceremonies and observe the might of the Aztec army. Then, after these displays of Aztec power, the local leaders were invited to join the empire. The only payment was tribute two to four times a year.

- Many cultures initially resisted, but the Aztec forces would immediately attack their cities and take their warriors as sacrifices. The mission of the Aztec soldiers was not to kill but to capture warriors for sacrifice.

- Moctezuma I subdued the cultures of the Veracruz area, the Huastec and the Totonac, who controlled tropical lands with significant

resources: cocoa, rubber, feathers, and seafood. These were luxury items craved by the Aztec nobles.

Expansion beyond Control

- Moctezuma's reign set the empire-building strategy. As Tenochtitlan grew, Aztec control of the Triple Alliance increased. The next four kings would further expand the Aztec Empire, which eventually reached all the way into Guatemala. There were over 450 different tribute states within the empire. But the larger the empire grew, the harder it was to control.

- Moctezuma I died in 1469, and his grandson Axayacatl became the next king. He spent much of his 12-year reign putting down various rebellions in the empire. Axayacatl was best known for conquering Tlatelolco, the island city next to Tenochtitlan. Because the *pochteca* leaders in control of it had become too powerful, they posed a threat to Tenochtitlan's authority.

- Both Axayacatl and the next Aztec ruler encountered groups they could not conquer. To the west were the Tarascans, with armies as large as the Aztec's. The Tlaxcalans were to the east; although they were small, they refused to submit.

Tributary and Client States

- In the face of resistance, the Aztec devised a new strategy. At that time, there were two kinds of vassal states: tributary states and client states. Tributary states paid taxes and tribute to Tenochtitlan. Tributary states also established new trading relationships to set the ground for the expansion of the Aztec Empire. Client states were set up on hostile borders. Although they were not required to pay tribute, they had to house and supply Aztec garrisons. These client states created a kind of a buffer zone that protected the empire.

- The Aztec Empire continued to expand, especially to the south and east. Moctezuma II, the king at Spanish contact, had grown up as a general of one of the conquering armies. The Tarascans remained a

threat during his reign. Moctezuma set up Aztec garrisons all along the border.

- To the south, Moctezuma's predecessor had subjugated the Soconusco along Guatemala's Pacific coast. Eventually, when the Spanish arrived, the Aztec led them down to that same area through their pre-established trade routes. The Aztec were also mounting an assault against Yucatan.

Implosion of the Empire

- In retrospect, the Aztec's greatest mistake was in not conquering Tlaxcala. Those people were supposedly from Aztlan, and they had been an independent state since Tepanec times. Tlaxcala reported that even if surrounded on all sides, it would never submit to Aztec authority.

- The Aztec now had a hostile enemy far too close to their capital. When Cortes landed in Veracruz, he first met the Tlaxcalans. He had only a couple hundred men, but the Tlaxcalan army had tens of thousands. And those men were ready and willing to destroy the Aztec. This was the Aztec Empire's Achilles heel.

- Using the Tlaxcalans as his army, Cortes brought down the city of Tenochtitlan in a matter of months. Without the threat of Aztec punishment, the tribute states quickly broke away, and Mesoamerica's largest empire imploded.

Suggested Reading

Carrasco, *The Aztecs: A Very Short Introduction*.

Smith, *The Aztecs*.

Questions to Consider

1. What other ancient empire is most similar to the Aztec Empire?

2. Would the conquest have gone differently if Tlaxcala hadn't remained independent?

3. Would there have been less rebellion if the Aztecs had imposed their religion on conquered peoples?

Independent Tarascans—Desert Warriors

Lecture 37

Just 50 miles to the west of Tenochtitlan was a line that the Aztec could not cross—the border of the Tarascan Empire. In many ways, the Tarascans were like their Aztec counterparts: fierce warriors, lovers of the arts, and devoted worshippers. Also like the Aztec, the Tarascans were all about conquest and tribute. But in other ways, the Tarascans were aliens on the Mesoamerican landscape. In this lecture, we'll demonstrate that the Tarascans represented a unique cultural blend: desert warriors with a South American heritage.

Beginnings of the Tarascan Empire

- The Tarascans were second only to the Aztec in the size of their empire. Like the Aztec, the Tarascans controlled a tributary empire. They maintained a highly centralized trading system; all goods went through the capital of Tzintzuntzan. Tarascan territory today is in Michoacan, an ancient Aztec name that means "place of fishermen."

- In that area were many highland lakes, and Lake Patzcuaro was the heart of the Tarascan Empire. Between Patzcuaro and Tenochtitlan was a large buffer zone. According to Tarascan history, the Tarascans arrived at Patzcuaro somewhere around 1250, which was when the Aztec say that they entered the Valley of Mexico. The Tarascans expanded their empire during the 1300s, just like the Aztec. The two cultures clashed in the river basins between their two empires until the time of Spanish contact.

- Tzintzuntzan had a massive temple complex inhabited by nobles and priests. At the top of the social hierarchy was the Tarascan king, a *cazonci*. He was the head priest, the head warrior, and the head administrator. All the vast land holdings were his property. At its peak, Tzintzuntzan's population was about 35,000. The capital was surrounded by smaller cities, tightly bound together in a social

network. In total, archaeologists estimate that there might have been as many as 100,000 people in the surrounding areas.

- By the Tarascans' own account, they were not originally from Patzcuaro. Chronicles of the Tarascans were not compiled until the 1530s. A priest named Jeronimo de Alcala studied the Tarascans and wrote *Relacion de Michoacan*, which was divided into three parts: religion, society, and history.

- The Tarascans' first warrior king was Tariacuri; Patzcuaro was his capital in 1325. The Purepecha people blended with the local population. Then, after Tariacuri died, his nephews spread out into the basin and conquered the entire area. They established two new towns: Ihuatzio and Tzintzuntzan. Tzintzuntzan grew in population, and by 1440, it was the new capital.

A Unique Culture

- Although the history of the Tarascans sounds similar to the Aztec origin story, there was an important difference—these people did not speak Nahuatl. Analysis of the Purepecha language concludes that it is closest to Quechua, the Inca language in South America.

- The Tarascans were clearly a culture distinct from the Aztec: They spoke a different language and had different customs, artifacts, and architecture. The origin of their culture was most likely the people from western Mexico who migrated inland. Those people were definitely influenced by South America.

- Evidence that the Tarascans were influenced by South America is supported by three points.
    - The Tarascans were experts in metallurgy, a craft that originated in South America.

    - Archaeologists have found Tarascan stirrup vessels that are similar to some found in South America. The odd forms of these vessels are too distinct to have been created independently in both areas.

- The Purepecha language is derived from Quechua—which could not have happened independently.

- Although the evidence is not definitive, the Tarascans were most likely a cultural blend of people connected to South America and the Chichimec, who came from the north about 1250. The Tarascan Empire was essentially a new socioeconomic strategy exerted over an already established resource base.

Expansion of the Empire

- The Tarascans conquered the Patzcuaro basin and imposed a new order of tax collection. Tribute poured into Tzintzuntzan from 90 communities under Tarascan control. Every 80 days, vast storehouses of wealth were owed to the capital—mostly food, cotton, and clothing.

- An aggressive expansion of the empire began in the 1400s. The *Relacion de Michoacan* notes that there was a specific month dedicated to conquest, and men were enlisted into service at that time. The Purepecha armies expanded their borders all the way to the coast—where they ran up against the Aztec trying to do exactly the same thing.

- Different kinds of tributes were taken from different places. On the Aztec frontier, the Tarascans collected slaves and people to sacrifice. Like Tenochtitlan with its bloodthirsty gods, Tzintzuntzan needed constant sacrificial victims to appease Curicaueri, the Fire God.

- Also like the Aztec, all the tribute to the Tarascans went directly to the capital city. From the south and west came metal products. Metals were the exclusive possessions of the nobles; commoners were not permitted to own metal. Metals were in the form of tools made of copper alloys, as well as needles, fishhooks, tweezers, axe heads, and spear points. There was also a great deal of gold and silver jewelry.

- The tribute lists also included items not available locally, such as cacao, quetzal feathers, and tropical fruits. Much like the Aztec, the Tarascans built trade relations with people who would eventually become part of the Tarascan Empire.

© Madman2001/Wikimedia Commons/CC BY-SA 3.0.

The elites and honored warriors of the Tarascan wore ear plugs and lip plugs, but commoners could not.

Life in Tzintzuntzan

- Consumer products in the Tarascan Empire were acquired in three ways: by market trading, through state merchants directly, or from state lands. Markets were the only places where common people could acquire goods and services. There were notably fewer exotic goods in the Tarascan markets compared to the market at Tenochtitlan.

- The elite Tarascan society lived a completely different life than that of the common people. Their sources of income, lifestyle, and range of responsibilities were like night and day. However, like two sides of the same coin, they were connected.

- General tribute was stored and used for festival feasts, to feed state labor teams, and to outfit the Tarascan army. State merchants were similar to Aztec *pochteca*, but they had no independent wealth; they worked for the king. These state merchants accompanied gold and silver shipments to the capital.

- Most of the food for royals came from the king's estate lands. People worked those lands as labor taxation. The king owned huge areas of forest, a source of deer and rabbit meat.

- Tarascan royalty were direct liaisons to the Fire God. They kept an ever-burning fire in the main temple, and when they were buried, an entire entourage joined them. The *Relacion de Michoacan* records that dozens of servants and wives were killed and sent to the other world with the king when he died.

- Community identity in the Patzcuaro basin was centered on an annual cycle of festivals. Like the Aztec, each month had a theme. In a certain month, evildoers were punished—killed in gladiatorial matches in the public squares, then flayed. Other months were devoted to conquest—a short month to prepare for war and a longer month to go to war.

- As with the Aztec, monthly festivals and preparation for them dominated most of the average Tarascan's life—both commoner and noble. But unlike the Aztec, Tarascan festivals seemed to place greater emphasis on the capital city and, thereby, increased its centralized control.

The Great Platform

- The capital at Tzintzuntzan had one central ceremonial complex, surrounded by residential neighborhoods. A massive platform called the Great Platform dominated city life. It had five circular temples on top and was embedded into a hillside overlooking the lake. In the back end on the top were palaces and storehouses.

- The Great Platform was an impressive 400 by 250 meters—almost 30 football fields. An entire royal city once stood on top of it. It dwarfed the Aztec Templo Mayor.

- The circular temples on top of the Great Platform were called *yacatas*. These were the places of public ceremony. An eternal fire was kept in the main one. The architecture is unique in

Mesoamerica; the temples are keyhole shaped. The stonework of the temples is also different; it consists of large stones fitted together without stucco. In fact, it looks very much like Inca-style architecture.

- Unfortunately, much of the architecture at Tzintzuntzan was destroyed by the Spanish in their search for gold and silver. The Spanish noted that there massive storehouses inscribed with spirals and geometric shapes, containing quantities of wealth. The first Spanish to arrive in Tzintzuntzan in the 1520s reported that they found 40 chests—20 of gold and 20 of silver. And they found a few more chests in other cities around the basin.

End of an Empire

- When the end came for the Tarascan Empire, it was like a storm cloud moving over them from the east. Their scouts came back with reports that the Aztec had abandoned their frontier forts because the conquistadors were laying siege to Tenochtitlan. All the Tarascans could do was wait and see what would come.

- In 1520, the Aztec were so desperate that they sent a plea for aid to the Tarascans. The emperor rejected the plea and, shortly afterward, died of smallpox. The next emperor of the Tarascans sent his brothers on a reconnaissance mission: They witnessed the Aztec defeat. When they came back, they urged immediate surrender to the Spanish, which the Tarascans did.

- The Spanish arrived in force to Tzintzuntzan in 1522 and immediately demanded all the gold and silver. When that was gone, the Spanish demanded more. Temples were ripped down and churches built from the rubble. The two mighty empires of people from the north—the Aztec and the Tarascans—had fallen to the Spanish in less than a decade. Mesoamerica would never be the same.

Suggested Reading

Foster, *Tzintzuntzan*.

Coe and Koontz, *Mexico*.

Questions to Consider

1. Why were the Tarascans so different? Do you believe the South American influence hypothesis?

2. Do you think it's possible, as the origin stories claim, that the Aztecs and the Tarascans held common ancestry?

3. If the Tarascans had answered the Aztec call for help, do you think Cortes would have still taken Tenochtitlan?

Paquime—Northernmost Mesoamerican City?

Lecture 38

Paquime, in northern Mexico's state of Chihuahua, is an enigma. It stands at the frontier between Mesoamerica and the American Southwest. Archaeology at the site suggests that Mesoamerican elites were controlling a Pueblo population there. In this lecture, we'll discuss Paquime's divided nature—with both Mesoamerican and Pueblo influences—and examine its architectural and engineering achievements, as well as its extensive trading network. With the end of Paquime in 1450, a unique way of life in the northern deserts of Mexico disappeared. The end for the rest of Mesoamerica was not far behind.

A Time of Transition

- The site of Paquime, or Casas Grandes, is the largest ruins for hundreds of miles in its area. Architecturally, Paquime is half Pueblo and half Mesoamerican. On the west side are temples and Mesoamerican-style ball courts. On the east side are pit houses and adobe structures. Paquime ceramics are primarily Pueblo forms, but there are also ceramics that resemble those from western Mexico.

- Some archaeologists connect Paquime to the American Southwest, specifically to the cultures at Chaco Canyon. However, Chaco Canyon was abandoned in 1150, and Paquime seems to have originated about 1250. Other scholars link Paquime to the Aztec, suggesting that the city may have been an outpost of *pochteca* traders.

- In any event, the Mesoamerican influence is very clear at Paquime. Paquime was burned, then rebuilt about 1340; when it was rebuilt, it was even more Mesoamerican in style. The Aztec were still under Tepanec control in 1340; their empire and its expansion did not begin until 1427. Paquime was abandoned about 1450. In fact, Paquime's dates—between 1250 and 1450—fall in a transitional period for both the American Southwest and Mesoamerica.

© HJPD/Wikimedia Commons/CC BY-SA 3.0.

The site of Paquime is near the San Miguel River and is surrounded by abundant farm land; the city also constructed reservoirs and a water system that further aided farming.

- Paquime has been known since the 1500s. A Spanish explorer named Francisco de Ibarra, following trade routes from Mexico up north, first reported the ruins in 1565. At that time, a people called the Opata were farming in the region, organized into small, typically Mesoamerican city-states.

Joint Casas Grandes Project

- Little professional archaeological work was done at Paquime until 1958, with the inauguration of the Joint Casas Grandes Project, led by Charles Di Peso. Di Peso excavated the ceremonial architecture in the west part of Paquime and left the east side almost completely intact.

- After Di Peso's project, Paquime sat untouched by archaeology for almost 50 years, although the areas surrounding Paquime have been further studied. There have been extensive surveys, most of which took place in the 2000s by Michael Whalen and Paul Minnis. These two archaeologists focused on issues of trade, politics, and local farming.

- Much of what we know about Paquime, however, comes from Di Peso's excavations, his reports, and the subsequent studies of the artifacts he collected. It sounds as if we don't have much evidence to work with, but thankfully, Di Peso's work was exceptional.

East and West Paquime

- Paquime's layout reflects its divided nature. There are two distinct sections, east and west, divided by a wall and a water channel feeding both sides. Every housing zone had its own running water.

- The west side has Mesoamerican-style architecture, with stone buildings. The east side is in the Pueblo style, with adobe buildings. On the east side—almost purely residential—are a couple of circular house pits, but most of the dwellings are rectangular adobe houses of one to two stories, arranged around patios.

- The west side held the public buildings and three ball courts, which were I-shaped, like Mesoamerican ball courts, and built in stone. Hohokam ball courts, which are in Arizona, are ovals. To confirm the Mesoamerican influence, underneath those ball courts were sacrificial victims, with men in the center and women on the ends. Each was dismembered—definitely not Pueblo behavior.

- There are 18 platform mounds at the site, of varying shapes and sizes. Some are more circular; others are rectangular. One large circular mound is connected to the city reservoir; a rectangular mound is attached to the main ball court. Some of the mounds are effigies, in the shape of a bird or a cross. Those mounds are not Mesoamerican forms, nor are they Pueblo. If anything, they look like mound structures built by the native cultures in the Midwest United States.

- Perhaps the strongest Mesoamerican connection at the site is the House of the Macaws—apparently a breeding site for macaws used in rituals. This may be connected to an odd find in archaeological digs in the Southwest. In a cache there was found the left wing of a

macaw of about a year old. Perhaps Paquime provided the birds for such rituals.

- A strangely absent feature at Paquime is the *kiva*. Kivas—circular, subterranean temples—are at the core of Pueblo religious life. There is a roof on the surface level, with an access hole and a ladder leading down. Inside are fire pits and benches.

Architectural and Engineering Achievements

- The most impressive section of Paquime is its huge apartment complex, at least three stories tall, with hundreds of rooms and patio areas connected together. Underneath were subterranean wells for water and sweat baths.

- The complex itself had space for more than 1,000 people. Architecturally, that complex is particularly Pueblo. It is made of adobe and has T-shaped doorways—exactly like those seen in Chaco Canyon. Its stories are in a step form; ladders serve as to provide access between floors.

- From an engineering perspective, the most remarkable construction at the site is the city's water system. It contains reservoirs and channels, all of them plaster-lined, leading to the houses and temples. There were also silting ponds outside the reservoirs, indicating the activity of organized labor crews and routine maintenance.

Heart of a Network

- Although Paquime was a cosmopolitan city whose rulers led with a complex blend of multicultural ideas, the estimated population of Paquime is surprisingly small—perhaps only 2,500 people. A possible explanation is that Paquime was a disembedded capital, like Monte Alban in Oaxaca.

- Whalen's studies in the area found 128 contemporary sites, all within 30 kilometers of Paquime. Most of them are small, but some of them are almost as large as Paquime itself. Whalen's studies

indicate that Paquime was not an isolated city; rather, it was the heart of some kind of network.

- Whalen's research also found fire signals on hills in the area. An analysis demonstrated that Paquime could signal the entire network with this system. The Tarascans also had a network of fire signals for the Patzcuaro basin.

- The villages surrounding Paquime are from the Viejo period, which began between 1200 and 1250. Paquime was very small at that time, with only about 20 house clusters and a small water system. This suggests that Paquime started local, then amplified through trade into a larger and more international system.

Connections to the American Southwest

- Artifacts found at Paquime indicate that its people traded far and wide. What's more, the city's blended architecture styles are neatly reflected in the objects found in Di Peso's excavation. The largest single category of trade item was shells imported from the Gulf of California and perhaps as far away as the coast of western Mexico. Di Peso found more than 4 million shells.

- Paquime produced and exported excellent pottery, very much in the Pueblo style: bowls and jars painted red on brown with geometric bands. Some ceramics resembled those of the Mogollon culture, as well.

- Paquime imported many items from the south but exported almost exclusively to the north. Items from Paquime have been found in Arizona, New Mexico, and Texas.

- Archaeologist Stephen Lekson interprets this northern trade as evidence that the people of Paquime were part of the American Southwest, not Mesoamerica. He sees the north–south line between Paquime, Chaco Canyon, and the Southwest ruins of the Aztec as a continuum of culture. The discovery of fragments of a Pueblo road toward Paquime also supports Lekson's theory of a connection.

South American Influence

- The majority of Paquime's imports from western Mexico, aside from tons of shells, are copper bells and jewelry. The best sources of those were Colima, Nayarit, and Jalisco. These western coast people, after the fall of the Teuchitlan tradition and before the Tarascans, might have been Paquime's trade partners.

- Although most of Paquime's pottery was Pueblo, not all of it was. Some of it was in the form of human figurines, like those in western Mexico; as we've said, western Mexico was influenced by South America.

- One of the items Di Peso found was a stirrup vessel with a portrait head, just like those found in South America. This discovery adds yet another layer to the mystery that is Paquime.

A Curious Theory

- We conclude this lecture with a unique theory of the origin of Paquime: The timing and the evidence may suggest that Paquime was Aztlan—the Aztec mythic place of origin.

- Paquime was burned about 1340, then rebuilt as a Mesoamerican city. It also has a water system very much like the Aztec capital's water system: Both were masterpieces of hydraulic engineering. There are also hints of Tarascan influence at Paquime, such as the fire signals. A trader would have to travel through Tarascan territory to reach western Mexico trade routes.

- Paquime may have been a capital of an Aztec tribute state. Both the Aztec and the Tarascans say that they came from Aztlan in the north, and the clues seem to be pointing to Paquime.

- Aztlan was said to be a place of herons, a marshy place. *Chihuahua* is a Nahuatl word, meaning "the place where river waters meet." And it just so happens that today, that is a migratory bird destination for herons.

- The people of Aztlan came from Chicomoztoc, the Place of 7 Caves. There are a number of caves in the Paquime area, and they were inhabited by pre-Paquime people. The drawings of those caves look very much like the Aztec drawings of Chicomoztoc.

The End of Paquime

- Paquime met its end in 1450 A.D. That, too, might have been related to cultures in the south. The Pueblo area experienced a drought in the 1300s, as well as a lack of trade partners. At the same time, the Aztec and the Tarascan empires arose, changing and dominating the tribute networks.

- The people that Paquime could have been trading with earlier were now under the control of either the Tarascans or the Aztecs. By 1400, there were no more west Mexico trade goods at Paquime, probably because those routes had been cut off to them.

- Paquime's last few decades were bad ones. A lack of centralized leadership is apparent in the archaeology. People started building inside the plazas, and the water system fell into disrepair. In the end, people were actually buried in the water channels.

- We're not sure how Paquime ended, but the locals in the area have a myth that it was an uprising, a protest of slavery practices. Whatever happened to Paquime, it was the end of a unique way of life in the northern deserts of Mexico. The end for the rest of Mesoamerica was not far behind.

Suggested Reading

Powell, ed., *Secrets of Casas Grandes*.

Schaafsma and Riley, eds., *The Casas Grandes World*.

Questions to Consider

1. Who were the leaders of Paquime? Were they locals or foreigners who took over?

2. Why did so few people live in Paquime, given that it had enough water for many more people?

3. Why was Paquime burned around 1340? Who was responsible?

Illuminating Works of Aztec Art

Lecture 39

Aztec civilization was a fascinating combination of brutality and beauty—a culture that combined the practice of human sacrifice with a deep appreciation for art, music, and philosophy. For the Aztec, life was a series of paired dualities: male and female, darkness and light, life and death. Nowhere is this dichotomy more evident than in Aztec art. This lecture examines the intricate symbolism in Aztec art, details its depiction of time and mythology, and considers the phenomenon of the dually created Codex Mendoza—an Aztec piece of literature with Spanish intent.

Calendar Stone

- The most famous piece of Aztec art is the Calendar Stone, also called the Sun Stone. A beautifully carved stone disk fabricated from 12 tons of solid basalt, this artwork has come to represent all of Mesoamerica. Originally, it sat on top of the Templo Mayor in Tenochtitlan.

- In the 1500s, Spanish priest Diego Duran spotted it in the rubble, buried under the cathedral's foundation. It was then rediscovered in the 1790s during repairs on the cathedral. At that point, the Spanish mounted it into the cathedral's facade, where it was known as Moctezuma's Clock.

© Javier García Blanco/iStock/Thinkstock.

Images of Venus and flint knives encircling the side of the Calendar Stone may make the symbolic point that the Aztec universe was surrounded by war.

- Although the artwork was all about time, it was not a clock. The Calendar Stone was a representation of

Aztec time and history. Overall, it symbolizes the sun. Arrow symbols on the exterior of the disk represent the rays of the sun.

- The inner ring bands hold calendar glyphs. In the very center of the stone is the face of the Sun God, Tonatiuh. Tonatiuh is shown with a flint knife as his tongue. According to the Aztec, sacrifices were needed to keep the sun moving; that flint-knife tongue is said to be Tonatiuh's thirst for blood.

The Aztec Dichotomy

- Four glyph blocks around the innermost circle of the Calendar Stone represent the four previous creations: 4 Jaguar, 4 Wind, 4 Rain, and 4 Water. Today's people are living in the fifth creation, known as 4 Motion. Although we do not have an Aztec estimation of how long the fifth creation will last, there is a prediction that it will be destroyed by earthquakes—hence, the motion.

- The dates in the four blocks are days, not years. Interestingly, each starts with 4—the same as the Maya creation day. On the next band out from those blocks is a list of 20 day names in the sacred calendar, in a circle all the way around. Depicted here are the five mythological eras of time enfolded by the sacred calendar.

- The outermost band is a double-headed snake wrapping all the way around the stone. The faces meet together at the bottom; from the mouths come two deities: the Sun God and the Fire God. The snake's body has fire signs along it—symbolizing Xiuhcoatl, the Fire Serpent.

- Very near the top of the stone is a date cartouche that reads 13 Reed. Many scholars believe that denotes the year 1479, during Itzcoatl's reign. Others believe that it was Moctezuma II's work. Images of Venus and flint knives are found around the sides of the Calendar Stone. Both Venus and flint knives are symbols of war. The Calendar Stone may have been a gladiatorial ring, where sacrificial victims would be made to fight to the death.

- The Calendar Stone typifies the Aztec dichotomy. It was an elegantly combined statement of mythological history, time, astronomy, philosophy, and religion all carved into a single stone—a stone that was used to kill sacrificial victims.

Symbolic Re-Creation of Myth

- Two other major carvings were found at the same time as the Calendar Stone: the stone of Tizoc and the statue of Coatlicue.

- The stone of Tizoc is somewhat like the Calendar Stone. A large disk 10 feet in diameter and 3 feet thick, it has beautiful carvings on the top and the sides. The stone of Tizoc is clearly a sacrificial stone. A bowl and channel are carved into the top. Hearts of the victims were placed in the bowl, and the channel allowed the blood to drain off. On the side are 15 different scenes of domination. Aztec warriors are wearing costumes of Huitzilopochtli and Tezcatlipoca. King Tizoc, who reigned from 1481 to 1486, is said to be one of those images.

- The statue of Coatlicue weighs 3 tons and is 8 feet tall. A monstrous figure, it depicts a human with snake heads and snakes on its skirt. It has a necklace of human hearts and hands, and skulls hang from its belt.
    - Coatlicue was the mother of Huitzilopochtli. This statue was most likely on the top of Templo Mayor.

    - Coatlicue's story is well-known. She was living at Coatepec with her daughter, Coyolxauhqui, and her 400 sons. The daughter rallied the sons to murder the mother; they chopped her head off, and blood spewed out like snakes. But then, Huitzilopochtli killed all 400 boys and Coyolxauhqui.

- Another important find was made in 1978. During street repairs near the cathedral, workers found the base of the Templo Mayor. Attached to the base was another disk showing the dismembered body of Coyolxauhqui, whose name means "face painted with bells."

- With that find, archaeologists can definitively say that the Templo Mayor is a symbolic re-creation of a mythical moment on Coatepec mountain. The Templo Mayor's right side was dedicated to Huitzilopochtli. His mother was on top, beheaded. His half-sister was in pieces below.

Codex Mendoza

- Altogether, there are nearly 500 Aztec documents—some written by Europeans and others by Aztec people. The Codex Mendoza has particular credence because it was written by Aztec people at Spanish contact.

- The Codex Mendoza was commissioned in 1535 by Antonio de Mendoza, the first viceroy of New Spain. He had the book created for Charles V as an assessment and explanation of the Aztec Empire. Aztec scholars worked along with the Spanish to create the book.

- The Codex Mendoza never actually made it to the court of Charles V. The ships carrying the book were attacked by French privateers, and the book was taken to France about 1553. It ended up in Oxford, and Lord Kingsborough made the first copy of it in 1831.
    - Section 1 covers Aztec history from 1325 to 1521. It records the founding of Tenochtitlan and provides a list of Aztec rulers and their conquered cities.

    - Section 2 is a list of the conquered cities within the Triple Alliance territories and the tribute that was demanded from each.

    - Section 3 is a description of Aztec life, complete with drawings. Lives of priests and warriors are covered in great detail, as are descriptions of clothing, battle methods, and the establishment of tribute.

- In that single picture book, the Aztec told their history, detailed the specifics of their wealth base, and described the daily lives of their people. In an ironic twist, the Spanish led the Aztec to create a document that preserved their culture. And in crafting the Codex

Mendoza as an Aztec piece of literature with Spanish intent, the two cultures together created a piece of cultural patrimony that remains invaluable today.

Nezahualcoyotl: Poet King

- We know that the Aztec were fierce warriors, ruthless conquerors, and bloodthirsty practitioners of human sacrifice. They also loved poetry. All across the Triple Alliance, the ability to create a beautiful poem was respected as much as prowess in battle.

- The Aztec memorized songs and poems and handed them down from generation to generation. There were songs for each one of the festivals. The Aztec called poems "flower songs." Poetry was spoken rhythmically and often accompanied by a drum or flute.

- Nezahualcoyotl—the king of Texcoco and one of the founders of the Triple Alliance—was the most famous of all Aztec poets. He was a true Renaissance man in the spirit of Thomas Jefferson or Imhotep: architect, engineer, artist, orator, seer of the future, and reluctant warrior-king.

- The oldest poem we have from Nezahualcoyotl was from before the creation of the Triple Alliance. The Tepanec had driven Nezahualcoyotl from Texcoco. In exile, he was inspired to create a poem, called "Song of the Flight," about his sorrow and the fleeting nature of human existence.

- For the Aztec, life was a series of paired dualities: men and women, darkness and light, life and death. Through their arts and actions, we can see that the Aztec also saw beauty and horror as paired dualities—two sides of the same coin.

Suggested Reading

Duran, *Book of the Gods and Rites and the Ancient Calendar*.

Leon-Portilla, *Fifteen Poets of the Aztec World*.

Miller, *The Art of Mesoamerica from Olmec to Aztec*.

Questions to Consider

1. Is it hard to understand how a culture as the Aztec could be so violent and such lovers of the arts at the same time?

2. Do you think the average Aztec citizen lived in fear of the religion, or did religion give Aztecs peace?

3. Why was the main Aztec temple filled with the story of Huitzilopochtli's violent birth?

Tulum—Aztecs at the Ancient Maya Port City

Lecture 40

Tulum was a small port city but of great strategic importance. By the time of Spanish contact, Tulum may well have been under the control of the powerful Aztec *pochteca* traders. In this lecture, we'll discuss a controversial theory: Tulum may have been the launching point for an Aztec invasion of the Maya to draw the Maya into their empire. This invasion, however, was cut short by the arrival of Hernan Cortes.

Tulum's Great Wall

- Tulum is surrounded by a massive wall; within that wall is a second wall called the inner enclosure, which holds most of the city's temples. Palaces are also found within that enclosure, which served as residences for the elites who controlled Tulum and possibly were places where the administration of trade was handled.

- The wall around the city, called the Great Wall, is 2,400 feet long, 20 feet thick in most places, and 10 to 15 feet tall. Clearly, it was excellent for defense, but some of its features call that defensive nature into question.

- First, it has five gates along its length—too many openings for proper defense. There are also large gaps, some more than 40 feet, in the area where the wall meets the cliff. An entire army could pass around the wall. What's more, archaeological surveys of the area found that most of Tulum's population actually lived outside the walls.

- Because of those odd features, archaeologists conclude that the wall was simply designed to restrict trade traffic in and out of the city, not used purely for defense.

El Castillo

- At the center of the inner enclosure is El Castillo, Tulum's main temple. Three stories tall, the structure has stuccoes and murals

© jamniswerner/iStock/Thinkstock.

In addition to restricting trade traffic, Tulum's Great Wall could have been a sign of the prestige and wealth of the city.

on the interior walls. A wide staircase leads to the top, and at the bottom are rooms flanking the staircase. Those lower rooms date to some of the earliest phases of the city. The upper temple of El Castillo was built sometime after 1400. And on the top of the stairs is a small, upright stone—most likely, a sacrificial stone.

- There are two small windows on the back wall of the upper temple of El Castillo, almost like shafts going through the thick wall. These windows may have been navigation aids—they both look out precisely to a gap in the reef about a half a kilometer offshore.

- El Castillo was just one of many temples at Tulum that were significantly rebuilt after 1400. Earlier phases were clearly Maya constructions, but these new temples showed the influence of Central Mexico.

Council Houses at Tulum?

- Residential palaces are the most common form of structure at Tulum. There are only four to five houses of any significant size and a dozen smaller ones. In fact, there are only 68 structures in the entire city. With so few buildings, the population living within

Tulum could have only been a couple hundred. Most of the people lived outside the city walls.

- The largest residential palace is the House of the Halach Winik—80 by 50 feet with patios at both the front and back. If Tulum did have a ruler, he probably lived in the Halach Winik.

- The common belief is that these palaces are elite residences, but some doubts are raised based on their architectural details. First, the houses do not have many rooms in them. The Halach Winik has only three large rooms. Typically, a Maya residence has more subdivisions within it, more rooms for more activities and sleeping spaces.

- Archaeologists have identified stone benches as the place where people laid pillows and made their beds. These buildings have no benches. They are also not very private places; they have a number of exterior doors and open patios.

- In fact, these houses are reminiscent of the council houses for clan representatives at Mayapan. Mayapan was also walled, and the League of Mayapan met inside. Perhaps Tulum had the same political system as Mayapan. Also like Mayapan, Tulum has a few temples scattered around these residences. One of them is the House of the Cenote, built directly over the entrance of a cenote. This cenote was Tulum's only source of freshwater within the walls.

Migrants from the Peten

- Tulum's history is in three phases: Early Post-Classic, from 1000 to 1200; Middle Post-Classic, from 1200 to 1400; and Late Post-Classic, from 1400 to 1521, or Spanish contact. Although Tulum itself originated later, the region had a much older occupation history.

- Area surveys found that Tulum was one of three cities in the immediate area. Close to Tulum were the sites of Tank-Ha and Xel-Ha. Excavations at Tank-Ha indicate that it is much older than Tulum. Tank-Ha was first settled in 300 B.C. It had continuous occupation all the way up until the conquest period—probably

because of the reef, which provided abundant fishing and a place to control marine traffic.

- About 880, Tank-Ha's ceramics changed, which correlates to the Classic period collapse. That change was probably due to migrants from the Peten headed into the Yucatan. These migrants traveled east out of Belize, then up the coast. Belize's old name is Belikin, which means "road to the east." The migrants who went through Belikin were the Itza people.

- The Itza eventually established Chichen Itza and may have come from the Tulum area. The idea is that they landed at Tank-Ha, then moved into Chichen Itza. Murals at Chichen Itza seem to support that theory; they may depict a Peten military entrada from the east. Perhaps the Itza took over the coast while they were headed to Chichen Itza.

- If that interpretation is correct, it might explain Tulum's establishment. Because Xel-Ha and Tank-Ha already existed, Tulum was a new port created by Chichen Itza about the year 1000 to control and increase trade.

Changes in Ceramics and Architecture

- Tulum, Tank-Ha, and Xel-Ha acted as ports administering trade between the Peten and Yucatan for a 400-year period, from 800 to 1200. But then, in the 1200s, Chichen Itza fell, and Mayapan took over the peninsula.

- The major changes for Tulum came about 1400. Archaeologists call the last phase of pre-Columbian cultural activities, before the arrival of Spanish, the Late Post-Classic. This period began abruptly around 1400 and brought major changes not only to Tulum but also to the entire Yucatan Peninsula.

- The most significant changes were in ceramics and architecture. A ceramics change—to archaeologists—means a change in the attitudes of the people and, perhaps, a change in their trading

partners. Sometimes such changes are even more accurate than carbon-14 samples. At Tulum, in a sudden ceramics change, craftspeople began producing a type called Tulum red.

- Buildings across Tulum were modified at the same time. Roof styles were changed to flat-topped roofs. Mini-shrines were placed inside the temples and palaces. A new architectural element was the outward sloping wall.

- The best example of the outward sloping wall is the Temple of the Diving God, which gets its name from the figure above its front doorway: a descending human figure with wings. This image was added to many of the doorways after 1400. Given that corn is in its headdress, this figure may have been the Corn God.

Connection to Coba

- Tulum's final days may well have been as an Aztec *pochteca* outpost. Tulum was transformed about 1400. Although El Castillo still looked very Maya, just south of El Castillo, in the inner enclosure, stands a building called the Temple of the Initial Series.

- Inside the Temple of the Initial Series is a Classic period stela. The Long Count date on the stela is 564—well before Tulum's inception. The style of carving, however, is similar to that of a nearby city in the interior, Coba. The theory is that the stela was carried about 30 kilometers from Coba, then enshrined in Tulum.

- Coba was abandoned during the Classic period but was resettled in the Post-Classic period, when diving gods were placed on the temple tops. The Coba stela was enshrined for the same reason that the people used the Chichen Itza snake columns: They were symbols of ancient Maya authority.

Temple of the Wind

- Just after 1400, Tulum had renewed prosperity and a strong Maya heritage. The city had connections to the interior; its people had wealth and a trade network. It was exactly the kind of place that

pochteca traders wanted to take over. The Aztec may have found Tulum and literally painted over the town.

- The temples of Tulum were repainted inside and out. Maya murals can be detected underneath those last paintings, but the new ones are much more in the style of Central Mexico. The gods depicted are still identifiably Maya, but Central Mexican symbols of Venus are flying above them.

- The gods on the murals are similar to images from Aztec-controlled Oaxaca. This style has been termed the international Mixteca-Puebla style, a common sign of Aztec presence. Two Maya stela were decommissioned at that time. Stela 2 was reused in a shrine in front of the Temple of the Frescoes. Dated 1261, it is illustrated with Aztec-style imagery.

- Stela 3 was also reused. Its mini-shrine was in front of the most telling piece of Aztec evidence at the site, the newly built Temple of the Wind. Standing on the cliff side, the Temple of the Wind has a square temple base but a circular temple on top. There are none others like it in the area. It looks just like an Aztec Ehecatl temple. The Maya did not worship Ehecatl, the Wind God; in fact, he was the patron deity of the Aztec *pochteca*.

Launching Point for Invasion of the Maya

- The Aztec strategy for regional domination was this: They initially sent the *pochteca* to scout for trade networks. The *pochteca* established exchanges of goods. Then, the Aztec military arrived. Southwest Campeche was in this last stage when Cortes arrived.

- Tulum very well may have been an Aztec-controlled Maya port city, from which the Aztec planned an invasion of the Maya. The Aztec had to abort the invasion when Cortes conquered Tenochtitlan.

- In the next lecture, we'll discuss those moments of first contact with the Spanish—and the profound effects on Mesoamerica.

Suggested Reading

Lothrop, *Tulum*.

Miller, *On the Edge of the Seas*.

Questions to Consider

1. Do you find the evidence of Aztec intrusion at Tulum believable?

2. Why did the small city of Tulum need such a massive wall?

3. Give that virtually every other Maya coastal city is now a resort or an amusement park, how did Tulum survive into modern times?

First Contact with Europe in Mesoamerica

Lecture 41

Europe had been using the Silk Road to trade with India and China for centuries. But when the Ottoman Turks conquered Constantinople in 1453, that route became dangerous. European nations needed new seafaring routes to Asia. This was the catalyst for the European discovery of the Americas. In this lecture, we'll describe the events that led up to the momentous encounter between the Old World and the New World.

A Flawed Map

- The Portuguese maintained trade routes to the Far East by sailing around Africa. Establishing resupply points was difficult, however, and the seas were very rough, especially around the Cape of Good Hope. What's more, it was a very long and costly journey.

- Christopher Columbus thought there was a better way. An Italian-born merchant, Columbus had traveled widely and was very well read. In 1485, Columbus was the first to propose a western route to the Indies, but the Portuguese turned down his request to finance an expedition.

- Columbus believed that the Indies were actually closer than they are in reality. He was influenced by the Italian astronomer Toscanelli, who had calculated the earth's circumference. Because Toscanelli used Arabic miles, not Roman miles, his calculation turned out to be somewhere around 30,000 kilometers, not the actual 40,000 kilometers.

- By using Toscanelli's map, Columbus estimated that it would be only 2,500 miles to Japan, but he was off by about 10,000 miles. Finally, however, Columbus convinced Spain to back his expedition. Ferdinand and Isabella were the rulers at the time, but most of his funding came from Italian merchants.

"Indios"

- In August 1492, Columbus sailed west in the *Nina*, *Pinta*, and *Santa Maria*. He was headed for Japan, but he hit the Bahamas. This was the first of four voyages he would take from Spain to the New World.

- In the Caribbean, after sailing around Cuba and several other islands, Columbus wrecked the *Santa Maria* on the island he called Hispaniola—modern-day Haiti and Dominican Republic. Because he went ashore on Christmas Day, he named the site La Navidad, which is "Christmas" in Spanish. There, in a peaceful encounter, he met the native Taino. From the Taino, the explorers acquired gold and other goods. The explorers called the natives "Indios," which is the origin of the term *Indians*. Columbus thought he had landed in India.

- Columbus returned to Spain to a hero's welcome and claimed to have found the East Indies. News of his discoveries spread throughout Europe. His second voyage was planned almost immediately.

Crimes against the Natives

- Six months after he returned to Spain, Columbus set sail on his second expedition. This time, he had 17 ships, 1,200 men, and tons of provisions. He was off not only to explore and acquire but to colonize.

- Arriving back in Hispaniola, Columbus found that La Navidad had been destroyed by the Taino; all the Spaniards left there had been killed. With La Navidad destroyed, Columbus made a new colony to the east. He called it La Isabella, after the queen. After a series of hurricanes and the onset of disease, Columbus moved the colony in 1496 south to Santo Domingo.

- In Columbus's third expedition, he landed in South America and explored the Orinoco River area. Returning to Hispaniola in 1499, he faced an angry population; there were charges of tyranny and

genocide against the Taino people. Even Columbus's allies could not deny the acts of cruelty.

- Columbus and his brothers were convicted of those crimes in Hispaniola and sent back to Spain in chains in 1500. They spent a year in jail and were stripped of their titles and all their wealth. In another audience with the king, however, the accused denied the charges against them and begged for a final chance to find the passage to the Indian Ocean. Ferdinand agreed, and he backed them with more ships.

The Moment of Contact

- In 1502, Columbus embarked on his fourth and final expedition to the New World. It was on that journey that the first Mesoamerican and European contact actually took place. With a promise to find a route to India, Columbus left with four ships. He sailed into the Caribbean with a hurricane right behind him.

- Surviving the hurricane, Columbus sailed south to Honduras. There, his brother Bartolomeo saw a huge trading canoe with 25 men, women, and children aboard, carrying supplies of cotton clothing, cacao, copper bells, and pottery. The Maya traders were headed from the south up to the Yucatan.

- The explorers captured the canoe and commandeered its cargo. They released all the people but questioned the captain using a Taino interpreter. The old man told them stories about tremendous stores of gold farther south.

- Columbus's men searched the coastline for a way through to the Pacific Ocean, all the way down to Panama. After being stuck in Jamaica for a year, Columbus went back to Spain. He landed in 1504, but he was in v poor health. Two years later, in 1506, he died in Valladolid, Spain.

- Although Columbus never did find his route to the Indies, he had opened up communication to the New World—arguably, the most significant cultural contact moment in world history.

Balboa and the Discovery of the Pacific

- In 1500, a young man named Vasco Nunez de Balboa arrived on the shores of Hispaniola. Balboa would eventually create the first permanent mainland Spanish settlement. The son of a conquistador, Balboa had joined a treasure-hunting exploration to Panama and Colombia.

- For four years, Balboa went on various expeditions, and he learned the coast of Panama very well. After falling into debt, he stowed away on a ship to Colombia on an expedition led by the young Francisco Pizarro.

- Balboa suggested moving a settlement to Darien in Panama, which was more fertile and had fewer warlike natives. Pizarro agreed, and they decided to move the settlement. Balboa picked the landing point. A hard-fought battle took place, but ultimately, the Spaniards were victorious. What's more, the natives that had attacked possessed a vast amount of gold and wealth. Balboa became a hero to all the men.

- Eventually, Balboa became the governor of Santa Maria la Antigua del Darien in Panama. In 1513, he led his most famous expedition—to the Pacific Ocean. Pizarro was with him on that journey, as well—an adventure that led to the eventual conquest of the Inca Empire.

The First Spaniards in Mexico

- As Pedro de Valdivia sailed to Santo Domingo on a mission for Balboa, he and his crew were shipwrecked on the shores of the Yucatan Peninsula. Most scholars agree that these were the first Spaniards in Mexico.

- The men were immediately captured by the Maya. Valdivia and three others were sacrificed; the others became slaves. A priest named Jeronimo de Aguilar also became a slave and learned Chontal Maya and Maya customs. In 1518, he was ransomed by Cortes and became a translator.

- A soldier in the party named Gonzalo Guerrero "went native." He was given to the king of Chetumal; eventually, he married the king's daughter, and they had three children together. He is remembered in the Yucatan as the first mestizo. All over Yucatan are statues in his honor.

© Yodigo/Wikimedia Commons/CC BY-SA 3.0.

Although he claimed to remain a friend of Spain, Gonzalo Guerrero fought with the Maya against the Spanish for 25 years.

Guerrero and Aguilar

- In 1518, an expedition led by Juan de Grijalva appeared in the Yucatan with four ships—sent by Grijalva's uncle, Diego Velasquez, the governor of Cuba. By the time Grijalva returned to Cuba to report, his uncle had lost faith in him. Velasquez commissioned another expedition, led by Hernan Cortes. He gave Cortes numerous ships and 500 men. Cortes left for Cozumel late in 1518.

- Cortes landed on the island, immediately burned down the town, and erected a Christian cross in the ashes. He ransomed Aguilar and sent the former priest to retrieve Guerrero, as well. But Guerrero refused to return, saying that he now was a Maya.

- Guerrero actually helped the Maya fight the Spanish, teaching them the tricks of Spanish strategy and tactics. Guerrero became a phantom menace for the conquistadors and one of their most wanted. He lived for 25 years as a Maya war captain. He led

50 canoes to Honduras in 1536 to join a fight against Pedro de Alvarado, but the battle was lost. Guerrero's dead body was found among the Maya dead.

- Jeronimo de Aguilar joined Cortes's crew in an expedition that would eventually lead to the destruction of the Aztec civilization.

Dona Maria "La Malinche"

- Just before Cortes left Cozumel, he got word from the governor of Cuba that his permission had been revoked. But he ignored the message and went anyway. Along the way, he picked up more men and more horses. Rounding the Yucatan, Cortes landed in Tabasco.

- There, he conquered a large Maya port with many Aztec *pochteca* traders. The defeated people gave him 20 slave women, one of whom was Dona Maria "La Malinche." She spoke both Maya and Nahuatl; thus, she and Aguilar worked as a translation team. The locals told Cortes about the Aztec capital of Tenochtitlan.

- La Malinche was an infamous figure. On the one hand, she is the symbol of native betrayal. On the other hand, she is a symbol of mestizo heritage. She eventually became Cortes's wife and bore his favorite son, Diego. More than just a translator, she was key to Cortes's successful strategy against the Aztec.

A Clash of Cultures

- Cortes sailed west, landed at Veracruz, and conquered Chalchihuecan, or the "place of jade." Cortes renamed it Villa Rica de la Vera Cruz—Villa Rica because of all the gold, and Vera Cruz ("true cross") because he had landed on Good Friday.

- Veracruz became the second permanent mainland settlement in the Americas. Before that, it was actually an Aztec tribute community. Locals there told Cortes more about Tenochtitlan, the amazing city full of gold. Cortes sent messages to Moctezuma and requested a meeting, but all his messages were ignored.

- Cortes decided to march to Tenochtitlan. In August 1519, he began the march inland, with 700 men, 15 horses, and 15 cannons. At this point in history, the Spanish had been in the Americas for almost 30 years. They had explored, conquered, and learned the geography, history, and culture. Now, it was time for the showdown: Mesoamerica's most powerful nation, the Aztec, versus the mighty Spanish Crown.

Suggested Reading

Carrasco, *Quetzalcoatl and the Irony of the Empire*.

Diaz, *The Conquest of New Spain*.

Questions to Consider

1. Why did it take the Spanish almost 30 years to come into direct contact with the Aztec?

2. Should Columbus be viewed as a hero or a villain in world history?

3. If you were captured by the Maya, as Aguilar and Guerrero were, would you have gone native or resisted acculturation?

The Siege of Tenochtitlan

Lecture 42

Arguably, the defeat of the Aztec at Tenochtitlan at the hands of the Spanish conquistadors was one of the greatest military victories in all of world history: A few hundred Spaniards defeated hundreds of thousands of Aztec warriors. One of the best accounts of Cortes's siege of Tenochtitlan was *The True History of the Conquest of New Spain* by Bernal Diaz. Diaz was an eyewitness to the action and had a great deal of experience in the New World. What's more, he had read many other accounts of the battle and had respect for the native people. In this lecture, we'll tell the tale of how Cortes conquered Tenochtitlan—based on Diaz's document and on native accounts.

Enemies of the Aztec

- Cortes landed south of Vera Cruz in 1519 with 11 ships, 600 men, horses, and weapons. Almost immediately, an Aztec welcoming party showed up bearing gifts. The Aztec messengers said that Moctezuma welcomed the explorers but asked them not come to the capital. The Aztec would be happy to pay the Spanish whatever tribute they wanted.

- Moctezuma was back at his capital worried about a prophecy that conquerors from the east would destroy the Aztec civilization. The year 1519 was 1 Reed, the predicted time when Quetzalcoatl would return.

- Cortes finally settled at a site called Cempoala. There, he met Fat Cacique, a leader of the Totonac people, and learned a significant fact: The Totonac hated the Aztec tyranny and could be potential allies for the Spanish. Cortes promised to protect them and, thus, gained the support of the entire Totonac region.

- Cortes established Villa Rica de la Vera Cruz in July 1519. He became the leader of the settlement, which meant that he had direct

authority over the new Spanish colony. He sent one of his ships back to Spain with his side of the story and some gifts for the Crown.

Battles with the Tlaxcalans

- Cortes decided to venture to Tenochtitlan. Aztec tax collectors arriving to meet Fat Cacique were immediately arrested. Cortes then secretly sent the Aztec collectors a message saying that the Spanish were friends of Moctezuma and would be visiting soon. Cortes took 400 men, horses, and weapons and headed for Tenochtitlan. The Totonac suggested that he go through Tlaxcala, whose people were the sworn enemies of the Aztec.

- A force of 3,000 Tlaxcalans, led by Xicotenga the Younger, prince of the Tlaxcalans, attacked the Spanish. Many Tlaxcalans were killed, and three of their captains were captured by Cortes. The next day, Cortes released the prisoners and sent them back with an offer of peace. The Tlaxcalans sent another 6,000 warriors to attack. Still, the Spanish held their ground.

- The Spanish soldiers deserve a great deal of credit; 400 fighters repelled thousands in multiple battles. Eventually, the Spanish won the Tlaxcalans' respect and loyalty.

"We Will Make History"

- Cortes and his men stayed among Tlaxcala for weeks and learned about Aztec dominance. They were housed in a large and beautiful city, with a thriving marketplace. In the marketplace, the Europeans were horrified by the sight of slaves in cages; thus, they broke open the cages and released the slaves.

- Another message was received from Moctezuma, inviting the Spanish to visit him at Tenochtitlan. The Spanish were advised to pass through the nearby city of Cholula. Cortes replied favorably, although the Tlaxcalans warned him not to go.

- At this point, the Cuban soldiers objected that 400 men could not conquer an entire nation. Never before had anyone done that, not even Alexander the Great or the mighty Roman Empire. And Cortes, in a splendid speech, replied that the men would make history. As it turned out, he was right.

Arrival in Tenochtitlan

- Cortes and his men marched on to Cholula, with 1,000 Tlaxcalans. Because Cortes was wary, he camped just outside Cholula and sent scouts and messengers to assess the situation. The scouts quickly learned that the men were marching into a trap; there were 20,000 Aztec warriors waiting in a ravine nearby.

- Cortes and his men then set a trap of their own. All the Cholula nobles were invited into a plaza, then surrounded by Tlaxcalan forces. The Spanish slaughtered every one of the Cholula nobles, and the Tlaxcalans sacked the city.

- On November 8, 1519, Cortes walked the causeway into the Aztec capital of Tenochtitlan. Moctezuma came out to meet him, accompanied by a huge entourage. Moctezuma was brought directly to Cortes on the causeway and stepped down to greet him personally.

- Moctezuma's greeting speech was legendary and has been confirmed in both native and

© Basilio/Wikimedia Commons/CC BY-SA 2.5.

Moctezuma was aware of the impressive victories of the Spanish and worried that these conquerors represented the fulfillment of a prophecy predicting the destruction of the Aztec.

Spanish accounts. He told Cortes that Tenochtitlan was his city, his home. He welcomed the return of Cortes as a god. Moctezuma was sure that the prophecy was being fulfilled, and he publicly swore allegiance to Spain. The Spanish were led to extravagant quarters.

- The first week in Tenochtitlan was very cordial. The Europeans toured the city and its markets. Dances, music shows, and feasts were held in their honor. They witnessed human sacrifices—which appalled them. Moctezuma was a gracious host. Although the nobles did not trust Cortes and wanted him out of the city, Moctezuma still feared the prophecy. He gave the Spanish a great deal of gold and asked them to take the tribute and return to Spain.

Moctezuma Taken Hostage

- In communications with Vera Cruz, Cortes discovered that Moctezuma had sent an army to attack the city. He made the bold decision to take Moctezuma hostage. Six months passed with Moctezuma in captivity. It was a brilliant strategy by Cortes. Moctezuma still held court and participated in sacrifices every day. Cortes and Moctezuma talked for hours; Moctezuma knew all the soldiers by name, and they treated him with great respect.

- Moctezuma told all the caciques to surrender. Tributes started to pour in. Cortes verified that the gold was coming from three large gold mines, and Moctezuma surrendered an Aztec vault full of gold. Diaz helped weigh the gold: He reported that it was worth 700,000 pesos, or 42,000 pounds of gold.

- The situation seemed to be going well for the Spanish. The Aztec had surrendered without a fight, and the Europeans had become rich beyond their dreams. But then, in April 1520, 18 ships from Cuba arrived with orders to arrest Cortes and his men for mutiny and treason. Governor Velasquez sent Panfilo de Narvaez to arrest Cortes.

- When word reached Cortes at Tenochtitlan that Narvaez had landed and was headed inland with 900 men, Cortes immediately rode

out to intercept him. He left Pedro de Alvarado in charge back in Tenochtitlan—the biggest mistake of his career.

Attack by the Aztec

- Cortes ambushed Narvaez using the Tlaxcalans. Then, crisis struck. Word came back from Tenochtitlan that Alvarado and his men had been attacked in their quarters by thousands of angry Aztec. While Cortes was gone, the Aztec invited Alvarado to a festival dedicated to Tezcatlipoca. There was feasting on human flesh, which infuriated Alvarado. He ordered all the exits blocked, then he killed everyone present. For the Aztec, this was the last straw. They needed to get the Tlatoani back.

- Cortes now returned with 1,200 men. The Aztec led him into the city but only to share the fate of Alvarado. Thousands of Aztec attacked the soldiers' compound. Moctezuma was forced up onto a roof and was hit in the head by a stone. Bernal Diaz reports that Moctezuma died soon after, and his body was sent out into the crowd.

- The Spanish knew that they had to escape. They built platforms from the doors in the compound and planned to lay them across the causeway gap at night. Then, they loaded up the Tlaxcalans with gold.

- The night escape was a disaster. It's called the Noche Triste, "sad night." The Aztec were ready with their own plans and attacked from canoes. The water was filled with the bodies of horses and men. Gold-laden Spaniards sunk to the bottom of the lake. Many of them were dragged to the temple and sacrificed.

- Cortes made it to land on June 30, 1520. Still, tens of thousands of Aztec warriors were on his trail. The Spanish reached Tlaxcala, where the Aztec attacked them again. The Europeans barely survived this battle. Now, Cortes was trapped in Tlaxcalan, with fewer than 400 of his 1,400 original men.

The Conquest of Tenochtitlan

- Any other man would have returned to Spain or Cuba at this point—but not Cortes. He remained in Mexico, rallied his Aztec-hating allies, and forged a new plan. He decided that if he could control Lake Texcoco, he could conquer Tenochtitlan.

- In Tlaxcala, Cortes and his men built boats in secret for months. Cortes finally convinced Velasquez to join the mission, and more men arrived. Just after Christmas, the Spanish celebrated mass at Tlaxcala, then dragged the boats to Texcoco and demanded that the city surrender. The city was then evacuated.

- In fact, all the towns in the area were empty—but Aztec warriors were hiding everywhere. Aztec attacks were futile, however. The Spanish continued to advance and launched their boats on Lake Texcoco. When Texcoco's supplies were exhausted, the Spaniards moved on to Iztapalapa—where there was another Aztec trap. The Aztec broke down the levees and flooded the town. The plan almost worked, but the Tlaxcalans figured it out at the last second and warned the Spanish.

- The breach in the levees ruined the freshwater barrier, and brackish water filled into the Tenochtitlan side. Now, the city had no more freshwater and no supplies. At that point, Cuauhtemoc was in charge of the Aztec. Cortes sent him repeated messages of peace, but the Aztec vowed to fight to the end. Tens of thousands defended the causeway; the siege went on for months.

- On the one-year anniversary of the Spanish landing, the Aztec attacked with more than 100,000 men. Still, the Aztec could not repel the Spanish. Eventually, the Spanish breached Tenochtitlan. Cuauhtemoc fled by canoe with his family, but he was captured and brought back to Cortes. Finally, Cuauhtemoc surrendered on August 13, 1521. The Aztec were defeated.

Suggested Reading

Carrasco, *The Aztecs: A Very Short Introduction*.

Diaz, *The Conquest of New Spain*.

Duran, *Book of the Gods and Rites and the Ancient Calendar*.

Gruzinski, *The Aztecs: Rise and Fall of an Empire*.

Smith, *The Aztecs*.

Stuart, *The Mighty Aztecs*.

Questions to Consider

1. What gave Cortes the confidence that a few hundred men could defeat an entire nation?

2. What was more important, Spanish military prowess or Cortes's negotiation skills?

3. How important was the role of religion in the meetings between these two great cultures?

Conquest of the Maya and Landa's Legacy

Lecture 43

Once the Aztec were defeated, Cortes and his conquistadors turned their attention to the rest of Mesoamerica. Although the Europeans' war with the Aztecs was relatively quick and confined to the Valley of Mexico, the Maya region was spread across what today is five different countries, and the conquest of the Maya took decades of hard-fought military campaigns. In this lecture, we will study the Spanish conquest of the Maya area; compare and contrast the brutal cruelty of the conquistadors with the Dominicans, who advocated "voluntary conversion"; and consider the paradox of the Franciscan Diego de Landa, who tortured and killed the Maya in the name of God but who wrote the Maya's definitive ethnography and made it possible to decipher their hieroglyphics.

Invasion in Maya Territory

- After Tenochtitlan fell in August 1521, Cortes took charge of the Aztec tribute network and demanded allegiance of the tributary states to the Spanish Crown. Few opposed the Spanish after the Aztec were defeated. In 1523, emissaries headed all the way down to the Soconusco: Maya territory.

- The Maya met Cortes's scouts with representatives from the K'iche and the Kakchiquel people, the two largest language groups in the Guatemalan highlands. Both peoples swore obedience to the Spanish Crown. But the scouts returned to Cortes and insisted that the Spanish needed to invade the natives' territory and beat them into submission.

- Cortes decided to send Pedro de Alvarado on this mission. His 300 soldiers and 180 horsemen were accompanied by thousands of Tlaxcalans and Cholulans. They marched along the trade routes down toward the Soconusco, following the Pacific Coast from Oaxaca into Guatemala. At the Salama River, Alvarado turned inland. There, he was met by the K'iche army.

- The Maya of the Guatemalan highlands were vulnerable. Their many different groups were divided along language lines. Each group had its own territory and fortified capital. Alvarado used the conflicts between them to his advantage. After defeating the K'iche, Alvarado marched to the K'iche capital and burned it to the ground.

Pedro de Alvarado

- Following the demise of the K'iche, the Kakchiquel made an ill-fated decision. In April 1524, they invited Alvarado to their capital at Iximche and offered to ally with him against the other Maya groups. Alvarado accepted their help.

- The Kakchiquel troops led Alvarado to the other Maya groups. At Lake Atitlan, the Tz'utujil Maya were defeated. Next, the Mam were conquered. To the south and east were the Pipil, who were overcome by Pedro de Alvarado's brother Gonzalo. Gonzalo established the city that is now known as San Salvador.

- In July 1524, Alvarado claimed Iximche as the region's new capital. By August, the Kakchiquel rebelled against him and actually burned down their own capital of Iximche in 1526. Although there were many pockets of Maya holdouts, however, the region was Alvarado's.

- This was a particularly bad time for the Maya. Alvarado established *encomiendas*—places where Spaniards were given rights to the land and any people living on it. The Maya in those lands were enslaved and forced to work in the mines. Alvarado even imported black slaves to join the Maya working in his mines.

- In 1540, Alvarado hatched his final bold plan. He funded 13 ships and 550 men with his own money. His plan was to sail from western Mexico to China to complete the mission that Columbus never could. But bad luck befell him. In western Mexico, a horse fell on him and crushed him; he died in 1541.

© AlejandroLinaresGarcia/Wikimedia Commons/CC BY-SA 3.0.

For his work against slavery, Bartolome de las Casas is considered a pioneer of humanitarian philosophy, and he remains a beloved figure in Mexican history.

Bartolome de Las Casas

- Although the Spanish conquistadors were generally a cruel and ruthless lot, a shining example of a moral and upright man was Spanish historian and missionary Bartolome de Las Casas.

- Las Casas landed on Hispaniola in 1502. At that time, he was a slave owner. When the Dominicans arrived in 1510, they were appalled by the cruelty they saw—and they opened Bartolome's eyes.

- He began to lobby against slavery and asked for an end to the encomienda system. In 1522, Las Casas started a colony in Venezuela. There, he advocated treating natives with respect. Unfortunately, that mission was a disaster; the natives burned down

his community and killed nearly everyone. Feeling deeply guilty, Las Casas became a friar in 1523.

- For a decade, he lobbied Spain to put an end to slavery and argued that the natives deserved respect and equal rights. In the mid-1530s, he journeyed to Guatemala, where he advocated "voluntary conversion." In 1542, Las Casas won his case against slavery—albeit briefly. The Holy Roman Emperor Charles V proclaimed a law for New Spain that abolished slavery, tribute, and the encomienda system. Las Casas was made bishop of Chiapas in 1545.

- However, the new law was repealed in the same year—the work of powerful landowners and nobles. Las Casas had to flee in 1546 and lived the rest of his life in Spain, where he continued to champion the dignity of the natives.

Francisco Cordoba

- Yucatan was the place of first contact as early as 1502, with the arrival of Columbus. Aguilar and Guerrero were there in 1511. Both of these were unintentional moments of contact, however. The third contact was also unintentional—the arrival of Francisco Cordoba in 1517.

- Cordoba sailed from Cuba with three ships and 100 men, looking for slaves to capture. He reached the northeast tip of the Yucatan, probably somewhere around modern-day Cancun. The Maya there gave him gifts and invited him ashore, where they ambushed him with arrows. The Spanish ransacked the area and ran.

- In need of fresh water, Cordoba sailed around the peninsula. But he and his men were surrounded at night by thousands of warriors. In the morning, there was a massacre, and more than half the Spanish were killed. After sailing into a storm, Cordoba and his men ended up in Florida. Finally, they returned to Cuba, where Governor Velasquez received a report of a mainland and possible stores of gold.

- Velasquez sent his nephew Juan Grijalva to Yucatan in 1518, where he established Cozumel as a base. But if the mission was to find gold, all fingers pointed to Vera Cruz. Thus, the next mission was led there. And the Maya were spared, at least for the time being.

Francisco de Montejo

- It was not until 1527 that Governor Velasquez would again fix his gaze on the Yucatan. In May of that year, he sent Francisco de Montejo to conquer Yucatan in the name of Spain. Montejo landed in Cozumel first and went ashore. There, he made a small settlement that he called Salamanca.

- The Spaniards tried to push inland, but they met with Maya resistance. The Spanish forces became seriously dwindled and had to recover for two months. They tried to push north again but were fought off by yet more Maya. Finally, they returned to Cozumel in 1528. Only 80 of Montejo's original 400 men survived.

- Stubborn and undaunted, Montejo took a supply vessel south. He took 40 men, leaving 40 more with Alonso Davila. They made it as far as the large Maya capital of Chetumal. The Maya had told Montejo that Gonzalo Guerrero lived in Chetumal. Guerrero and the Maya quickly fortified Chetumal.

- Montejo moved on to Tabasco, where he was appointed governor in 1529. Using Tabasco as a base, he approached Yucatan again, this time on the west coast. He established a garrison at Campeche, but it was continually attacked. His son Montejo the Younger made more progress inland but then lost everything he gained.

An Enormous Slave Colony

- The rebellion against the Spanish grew in Campeche. By 1534, Montejo's mission seemed pointless. Many of Montejo's men abandoned the garrison to join the conquistadors in Peru. Montejo was forced to retreat to Vera Cruz; Campeche reverted back to the Maya.

- By 1540, Montejo was in his 60s, and he assigned his powers to his son Montejo the Younger. His son returned to Campeche with another 400 men and finally took it in 1541. The Maya were becoming increasingly sick with infectious diseases brought by the Europeans, and they were demoralized. Finally, in 1542, Montejo the Younger conquered the city of Tiho and built Merida over its ashes. This was the new capital of Yucatan.

- With Merida as a power base, Montejo sent a new wave of conquistadors east, led by Gaspar Pacheco. In 1545, Pacheco organized a vicious attack on Chetumal—the Spanish took no prisoners. The Yucatan Maya had resisted for decades, but now they were tired, sick, and few in number. Pacheco enslaved them in encomiendas. By the 1550s, Yucatan was an enormous slave colony.

Diego de Landa

- Although the Dominicans and Bartolome de Las Casas were arguing for voluntary conversion in the Maya highlands, the Franciscans controlled Yucatan and took a different tack. The answer to the violent Maya resistance there was conversion by force.

- The greatest zealot among the Franciscans was Diego de Landa. Landa was born a nobleman in Spain. At the age of 25, in the year 1549, he landed in Yucatan. Adamantly opposed to human sacrifice, he would preach to the Maya and disrupt their rituals. He learned their language and studied their culture carefully.

- Convinced of a Maya underground resistance, Landa became increasingly violent and tortured and killed people for information. At Mani, he burned books, ritual objects, and even people. This was the final straw for Bishop Francisco de Toral of Yucatan, who had condoned Landa's methods. Now, even the conquistadors were calling him brutal and cruel. Landa was arrested and sent to Spain, where he was jailed for five years while awaiting trial.

- While in jail, Landa wrote a groundbreaking book, *Relacion de las cosas de Yucatan*—the single most significant Maya ethnography

ever written. It recorded all aspects of Yucatec Maya life, from food to religion to calendar rituals. Most important, it was a comprehensive description of Maya hieroglyphic writing, which aided in its later decipherment.

- Landa used the book in his defense, arguing in favor of the forced conversion method. He won his case and he was sent back to Mexico. In 1573, he was appointed the new bishop of Yucatan.

Suggested Reading

Bricker, *The Indian Christ, the Indian King*.

Landa, *Yucatan before and after the Conquest*.

Maxwell and Hill, *Kaqchikel Chronicles*.

Roys, *The Indian Background of Colonial Yucatan*.

Questions to Consider

1. What was it about the Maya of Yucatan that allowed them to resist the conquistadors so much more effectively than others in Mesoamerica?

2. What would have happened to overall world history if Pedro Alvarado had been able to launch his expedition to China?

3. Did Landa's goals justify the means?

Fall of the Last Maya Kingdom—The Itza

Lecture 44

Three centuries ago, the capital city of Nojpeten was the site of the demise of the last independent Maya kingdom: the Itza. At that time, at least 40,000 Itza lived around Lake Peten Itza, part of a loose confederation of independent cities and groups—the largest of which were the Itza, Yalain, and Kowoj—ruled by an Itza lord named Kan Ek. These indigenous groups were not unified, however, and in the end, this was their undoing. In this lecture, we'll describe the events that led to the fall of the last Maya kingdom.

© Georgios Kollidas/iStock/Thinkstock.

To cross the lowland jungles of the Peten, Cortes had his men assemble a series of wooden platforms; these were placed ahead of the men and horses, enabling them to walk across swampy areas.

First Contact with the Itza

- Pedro de Alvarado had taken Guatemala, and Francisco de Montejo had conquered Yucatan, but Peten was located in a gap between those two Spanish-controlled areas, and the Itza fiercely defended it. They created a no-man's-land that lasted for more than 150 years.

- Hernan Cortes made the first contact with the Itza. In 1525, Cortes passed through the area en route to punish an errant captain, Cristobal de Olid. This was also an opportunity to explore unknown parts of Mesoamerica.

- Cortes embarked from the state of Tabasco, along with an entourage of about 3,000 Aztec warriors. Tabasco traders led him straight to

Lake Peten Itza, and there, Cortes was invited by King Kan Ek to visit him on the island of Nojpeten.

- In a peaceful meeting. Cortes talked about God, and Kan Ek allowed him to erect a cross on the island. Kan Ek said that Captain Olid was in Honduras. Cortes moved on and eventually made it to Honduras, but by that time, Olid had already been killed in a rebellion. Cortes returned to Mexico by boat, and no one would contact the Itza for another 92 years.

The 12th *Bak'tun*

- In 1618, a group of 150 Itza emissaries emerged from the jungles south of the Spanish fort of Bacalar with a message from King Kan Ek to the governor of Yucatan. Franciscan friars were excited to accompany the emissaries to Merida, where they announced that they were ready to peacefully surrender to Spain. This was odd because at that time, the Itza were actually growing in power; refugees from other areas were joining them on a regular basis. Never once had they been successfully attacked by the Spanish.

- The Itza claimed that a great cycle was ending and that they were ready for the changes it would bring. The year was the beginning of the 12th *bak'tun* of the Long Count calendar. There was historical precedent for these dramatic voluntary changes. At the 11th *bak'tun*, in 1224, the Itza had voluntarily abandoned Chichen Itza. At the 10th *bak'tun* in 830, the Itza left Tikal.

- Franciscans returned with the Itza to Nojpeten. Juan de Orbita and Bartolome de Fuensalida celebrated mass for Kan Ek and preached the word of God. Orbita took a tour of the island's temples and discovered the statue of a horse. This was actually Cortes's horse, and the Itza had grown to love it. When it died, they deified it. This is an excellent example of the impact of the contact between the Europeans and Mesoamerica: The horse of Cortes became a new Itza deity.

- But Orbita was angered by this statue of the horse and destroyed it, infuriating the Itza priests. They demanded that he and his group be expelled. Orbita went back once more in 1619, and at that time, Kan Ek accepted a cross for his own house. The local leaders opposed Orbita, however, and demanded once again that the priests be expelled. Kan Ek did so. This was a significant moment because it demonstrated that Kan Ek did not have full authority.

Itza Massacre of the Spanish

- The Itza had presented themselves to the governor of Yucatan, and the governor wanted the glory of being the one who brought them under Spanish rule. If they would not be convinced through religion, it would be by the sword.

- Captain Francisco de Mirones was assigned to lead Yucatan's army against the Itza. He planned an armed conquest of the Itza with the permission of the Council of the Indies. The argument was that the Itza had already surrendered in 1618; thus, the military operation was to quell a rebellion, not make a conquest.

- Southwest of Bacalar were lands that were still not under Spanish control—lands where the Maya went for refuge. Jop'elch'en, a reduction town headed by the Franciscan Diego Delgado, was as far as the Spanish had gone into that area. Reductions were forced relocations of Maya people.

- Friar Delgado helped Captain Mirones establish a fort just south of Jop'elch'en in 1622. That was the launching point for the military expedition. While waiting for reinforcements, Friar Delgado went ahead to Nojpeten, where he was greeted by Kan Ek.

- It's not clear what happened thereafter, but something went exceedingly wrong. Every single Spaniard was killed. They were sacrificed, and Delgado's heart was removed. All their heads were mounted on stakes along the island's shore. Mirones sent scouts looking for them, and they, too, were sacrificed. One of the Maya

guides escaped and returned to tell Mirones what had happened. Mirones sent word to Merida for more reinforcements.

- Reinforcements arrived—but too late. By the time they got there, the fort was burned and everyone had been massacred. Mirones's head was also on a stake, and his heart had been cut out. The Spaniards would not return to Itza territory for another 70 years.

An Itza Buffer Zone

- In the south, in Guatemala, the Spanish tried to enter the Peten but without much success. The Dominicans there sought voluntary conversion of the Mopan and the Ch'ol Maya.

- The buffer zone between Guatemala and the Itza lands was a destination for Maya refugees. In 1631, the reduction town of Manche was established by military force in that same area. Mopan peasants were forcibly moved into that reduction.

- Then, there was a sudden attack at night, in which thousands of Itza Maya descended on the Spanish. The Itza's strategy was to keep these buffer zones unoccupied by the Spanish. It worked—at least until the 1690s.

Camino Real

- The year 1692 was a significant turning point in the destiny of the kingdom of the Itza. The Council of the Indies gave permission to Guatemala and Yucatan to construct a road connecting those two regions. As a side benefit, the Spanish could finally address the threat of Maya rebels in the buffer zone in between.

- Yucatan's governor at the time was an ambitious and wealthy nobleman named Martin de Ursua y Arizmendi. Building this new road was a stepping stone in his career, as was conquering the Itza.

- The Camino Real was originally to run west of Itza territory, from Campeche all along the Usumacinta, but before it was begun, there had to be diplomatic contact with Kan Ek. However, an Itza-area

civil war was brewing at the time. The Yalain and the Kowoj were fighting Kan Ek. When the road began in 1695, the work crews were repeatedly attacked and were forced to retreat back to Campeche.

- On the Guatemala side, President Barrios had a plan to secretly defeat the Itza and claim their territory before Yucatan could; thus, he launched an assault in 1695. That was hindered by the Mopan and the Ch'ol people, who were divided. But Ursua learned of Guatemala's plans and changed the direction of the road, pointing it straight at Lake Peten Itza.

A Divided Itza Nation

- In January 1696, Yucatan sent more priests to Nojpeten in a delegation headed by Friar Andreas de Avendaño. They presented gifts to Kan Ek as a new royal subject of Spain. Kan Ek acted his part and agreed to be baptized. Then, in an act that upset all his people, he allowed the priests to baptize 300 children.

- The leaders of the Kowoj arrived to Nojpeten and demanded that Kan Ek go to war against the Spanish. Because Kan Ek was still sympathetic to the Spanish, he let Avendaño flee at night—but Kan Ek's regional authority was finished. The Itza region at this point was now bitterly divided, which led to the demise of the Maya kingdom of the Itza.

- Avendaño was lost in the forest for a month. A company of soldiers sent to rescue him was slaughtered by the Itza. Avendaño managed to return, with reports of a divided Itza nation.

- Governor Ursua decided that if Kan Ek would not surrender, he would have to conquer the Itza. By December 1696, the Camino Real had reached the western edge of Lake Peten Itza, and preparations for an assault on Nojpeten began.

Demise of the Last Maya Kingdom

- Governor Ursua led the conquest himself. Although Kan Ek continued to offer peace, there were frequent night attacks, and

fleets of canoes blockaded the lake. Another campaign was launched that same year from the Guatemala side. Juan Diaz de Valesco's troops made it to the lake, but Diaz was lured in and sacrificed, and his head was found later.

- Ursua's final plan was to build a galleon on the shore of Lake Peten Itza, which was launched at dawn on March 13, 1697. There was a blockade of Itza canoes, but the galleon rode through it. The Spanish maneuvered around Nojpeten, firing their cannons at the temples. The entire island was subdued in less than an hour. The soldiers stormed the temples and destroyed the idols. Ursua climbed to the island's peak and planted his flag.

- Kan Ek escaped by canoe, but he was eventually captured. The Yalain and the Kowoj continued to resist, but at that point, it was futile. Yalain's capital was burned in 1698; the Peten was ceded to Guatemala.

- For the Spanish, the Itza were a loose end, a bit of unfinished business. For the Maya, they were a last great hope. The Maya kingdom of the Itza that fell in 1697 was the very last in all of the Americas. The Maya of the Yucatan had lost the territories where they could escape the oppression of the encomiendas. Now, they had nowhere to run.

Suggested Reading

Bricker, *The Indian Christ, the Indian King*.

Jones, *The Conquest of the Last Maya Kingdom*.

Questions to Consider

1. The horse Tzimin Chak had an incredible effect on the Itza. What other incidents of momentary cultural contact had such an impact?

2. Would the Itza have held out indefinitely if had they not become embroiled in a civil war? Was their independent city-state model of governance their undoing?

3. Why did Yucatan give up the Peten after conquering it?

The Caste Wars of Yucatan

Lecture 45

A Maya rebellion in the 1800s, known as the Caste Wars, still shapes the identities of the Yucatec Maya today. Although the Maya of southeast Yucatan resisted Spanish rule from the very beginning, by the 1600s, much of that area was under Spanish control. Many Maya were made to work in the haciendas, producing sisal and sugar cane. The Spanish developed a kind of caste system to control the Maya. In this lecture, we'll examine how that caste system led to a rebellion by the Maya, consider the phenomenon of the Talking Cross and the Cruzob movement, and discuss how the Mexican Revolution expanded the rights of indigenous people.

Yucatan's Caste System

- Yucatan's caste system had four main tiers. At the very top were the *peninsulares*, those people born in Spain. On the second level were the *criollos*, the Spanish people who were born in Yucatan. On the third level were the mestizos, or people of mixed blood—part Spanish and part Maya. At the lowest level were the Indios, who had no rights at all.

- In between was a group called the *hidalgos*. Hidalgos were Maya people who were trained to use guns and were in charge of controlling the Indios. They were also instrumental in finding renegade communities in the jungle.

- After the Itza kingdom fell in 1697, there were no places where the Maya could escape slavery. The entire area of the Yucatan was one slave labor pool. The Maya were paid but not equitably, and they were not permitted to leave or to stop working. By the mid-1700s, desperation set into the entire region. Some of the hidalgos had had enough and actually assisted the Maya slaves.

The Yucatan Break from Spain

- While the Mexican War of Independence was being fought, from 1810 to 1821, Yucatan stayed completely out of it. After Mexico won against the Spanish, Mexico put new laws in place outlawing slavery and giving land rights to all the indigenous people in Mexico.

- Yucatan also broke away from Spain in late 1821, but the Maya were not granted the same rights as the indigenous in Mexico. That was the final straw for the Maya.

- After the war, Texas rebelled and, with the backing of the United States, broke away from Mexico. Guatemala also rejected Mexico, deciding to join Central America instead.

- Yucatan decided to join Mexico in 1823—which meant it owed more taxes. The Yucatan elite simply passed the burden of those taxes along to the Maya. They gave some Maya land rights but only to impose taxes on them.

A Maya Army

- In 1839, a Spanish nobleman, Santiago Iman, started a movement in Tizimin to encourage the Spanish to break away from Mexico. Seeking an independent Yucatan, Iman asked the Maya people for their support. In return, he promised them land and exemption from taxes.

- Iman armed the Maya with guns and trained them to be soldiers. With his Maya army, he pushed all the way across Yucatan. First, he took over Campeche, then finally conquered Merida. In 1841, Iman had enough control of the entire peninsula to proclaim independence from Mexico.

- Mexican president Santa Anna had lost Texas and Guatemala. Chiapas was leaning toward Central America. Thus, in 1842, Santa Anna brought troops and subdued Chiapas, bringing it into Mexico. His next target was Yucatan, but he was repelled by Maya forces.

- A divide among the Yucatan elites grew. On one side, Miguel Barbachano in Merida was for rejoining Mexico. On the other side, Santiago Mendez in Campeche was against joining Mexico. He feared that the United States would attack them if they were part of Mexico—and he was right. The United States occupied Mexico City in 1847.

- In the chaos, the Maya retreated back to southeast Yucatan but kept their guns. In 1847, the Maya staged a rebellion that history calls the Caste Wars. Onerous taxes and brutal treatment could no longer be tolerated. The Maya began planning a break away from Yucatan to create their own state.

Maya Rebellion

- Three men led the Maya rebellion in 1847: Manuel Antonio Ay, mayor of Chichimila; Cecilio Chi, mayor of Tepich; and Jacinto Pat, a wealthy landowner in Tihosuco. Chi and Pat obtained weapons and gunpowder from British Honduras—today called Belize. The Maya forces gathered on Pat's land in Tihosuco.

- Santiago Mendez, the Yucatan governor at the time, intercepted letters between Ay and Chi and captured Ay and killed him. Mendez's soldiers burned Tepich to the ground. Chi and Pat responded by attacking Valladolid. The battle was a bloodbath; all non-Maya people in the town were killed.

- By 1848, all but Merida and Campeche were Maya territories. Cecilio Chi wanted to crush the Spanish and take all of Yucatan, but Jacinto Pat wanted to negotiate a peace treaty with Miguel Barbachano, the new governor of Yucatan.

- Miguel Barbachano was cornered by the Maya rebellion just as he took office. Finally, Barbachano decided Yucatan should rejoin Mexico; on August 17, 1848, he signed the agreements to make Yucatan a state of Mexico. Mexico responded by sending him the weapons and soldiers he needed to fight the Maya.

A Maya Retreat and the Talking Cross

- Suddenly, however, the Maya simply retreated to their homes. Some scholars theorize that this was a result of failed leadership, but most believe the reason was even simpler: It was planting season. The Maya were corn farmers.

- Whatever the reason, the Maya retreated, and the Spanish advanced. Chi was assassinated by his own men in December 1848. Pat was assassinated in September 1849. The Maya rebellion movement was then leaderless and fractured. By 1850, the Maya were concentrated in just the southeast portion of the Yucatan.

- Then, in the town of Chan Santa Cruz, legend has it that a cross began to speak to the Maya, inspiring them to keep fighting and advising them where and how to attack the Spanish. The advice of the cross turned out to be sound.

- At first, there were only a few witnesses to this miracle, but then many heard the cross speaking. A new movement of Maya leaders who had been trained by the Spanish army heard the advice of the Talking Cross. To this day, the Maya believe that the cross truly spoke. In fact, the shrine of the Talking Cross is still in existence in modern-day Felipe Carrillo Puerto.

The Cruzob Movement

- People who followed the Talking Cross were called the Cruzob. England actually recognized them as the official state of Chan Santa Cruz. A captured Spaniard at the time saw 200 white soldiers in Chan Santa Cruz. The English had sent troops there to maintain the city's defense.

- The Cruzob movement gained momentum. The problem, however, was that the Maya were not unified. Some groups of Maya wanted total independence; others wanted to negotiate. Some of them even fought against the Cruzob and expelled them from their own territories.

- The Icaiche Maya, living in the area where Belize, Mexico, and Guatemala intersect, attacked the English in Belize. Belize supported the Cruzob to stop the Icaiche. Mexico sent in troops on multiple occasions.

- For a short while, the Maya had what they wanted. In 1884, Mexico signed a treaty with the Cruzob, and boundaries were established for an official state of Chan Santa Cruz. Again, there was infighting among the Maya. A coup d'état a year later dissolved the treaty and, along with it, the state of Chan Santa Cruz.

- The Cruzob were dependent on Belize, or British Honduras, as their only source of gunpowder. And in 1893, the Mexican president, Porfirio Diaz, wooed the English away from the Maya and the Cruzob. Now, the Maya had no more supplies or gunpowder.

- Diaz sent in the Mexican army, led by General Ignacio Bravo, to take out Chan Santa Cruz. Bravo used cannons to smash the churches in the community. Throughout the entirety of the Caste Wars, 200,000 people—mostly Maya—died.

The Mexican Revolution

- Porfirio Diaz proclaimed that the territory of the Yucatan was Mexico's, but he was about to face a much bigger problem: the Mexican Revolution. Diaz had been promoting pro-business, anti-indigenous policies throughout his presidency. By the beginning of the 20th century, native people across Mexico had had enough, and rebellions broke out across the country.

- The Maya of southeast Yucatan were again part of these rebellions. 1915, Diaz proclaimed that he had officially subdued the Maya and they were now part of the state of Yucatan.

- In 1921, the Mexican Revolution was won. Diaz was out, and there was a new land reform program for the indigenous called the *ejido system*. Areas around towns were solely indigenous property that could be bought and sold only within that community. But the

Maya of southeast Yucatan continued to defend their borders. They were left alone for decades.

Caste War Museum

- Even in the 1950s, the people who inspired the Caste Wars who called themselves the Cruzob were still in control in the Yucatan. The Mexican Revolution did improve the rights of indigenous people. Slave labor ended; taxation was fair and reasonable. And slowly, the southeast part of the Yucatan began to open up again.

- Tihosuco's church is still partly in ruins owing to the cannon fire from Bravo's men. The inhabitants leave it that way to remember the days of the Caste Wars. Tihosuco's Caste War Museum is an enormous source of community pride.

- Resistance against colonization in Mexico continues to this day. In the next lecture, we'll take a look at other areas of modern Mexico and discuss their fight to maintain cultural autonomy.

Suggested Reading

Bricker, *The Indian Christ, the Indian King*.

Jones, *The Conquest of the Last Maya Kingdom*.

Knab, *A War of Witches*.

Restall, *The Maya World*.

Roys, *The Indian Background of Colonial Yucatan*.

Questions to Consider

1. What is it about the Maya of southeast Yucatan that inspired them to keep fighting all those years?

2. Do you think the Talking Cross was a hoax to trick the people into fighting or something more?

3. Are we done with Maya rebellions, or do you think another one could take place?

Echoes of the Past in Mexico

Lecture 46

In the more than 500 years since the first Europeans landed on the coast of Yucatan, disease, conquest, and acculturation have threatened to completely wipe out Mesoamerican history, religion, culture, and practices. Despite tremendous pressures, the Mesoamerican way of life still thrives in the hearts and minds of the people living in Mesoamerica today. In this lecture, we'll study some of the indigenous people in Mexico, with a look at how they are maintaining the ancient traditions even today.

Indigenous Peoples in Mexico

- According to the National Institute of Statistics and Geography (INEGI), in 2010, the population of Mexico was 118 million, but only 16 million, or 14 percent, were indigenous.

- There are several complicated reasons for this seemingly low number. First of all, the indigenous are loath to participate in the census; being identified as an Indio can lead to discrimination. Second, indigenous people have a general distrust of the government.

- Third, the definition of *indigenous* is flawed. Basically, it refers to people who speak a native language or who self-identify as indigenous. The census used to have a category called mestizo for people of mixed blood, but now, the Mexican census has dropped that category. Another 60 percent of Mexicans used to call themselves mestizo. Together with the indigenous, the total is about 74 percent—a more realistic number.

Results of the Mexican Revolution

- Poverty among the indigenous in Mexico has shaped the country's modern history. After Spanish contact, three waves of 12 infectious diseases came over from Europe, which wiped out 90 to 95 percent

of the indigenous population in the first 100 years. But slowly, the population grew back, both indigenous and mestizo.

- In 1810, a large population of indigenous people was controlled by a small group of Spanish landowners. That led to the Mexican War of Independence against Spain. Although this war was led by nobles, it was fought by the indigenous. In 1822, Mexico gained its independence. And with that, Mexico ended slavery and granted equal rights for native peoples.

- But the changes did not go far enough. Europeans still owned most of the land, and poverty continued for the indigenous people. In 1910, the Mexican Revolution began, with indigenous leaders. In the south was Emiliano Zapata. In the north was Pancho Villa. Although Villa was not an indigenous, his soldiers were Yaqui from the northern deserts.

- That revolution was about indigenous land rights, and the result was the ejido system. Under the ejido system, indigenous villages own their land collectively, and they cannot sell it outside the bounds of their own community. Much of the country's land was restructured in that way, and the system still functions today.

- Ancient heritage was more respected after the Mexican Revolution. The government started its own branch of archaeology, and efforts to recover and honor the past were made. A national identity as mestizo was born. The Law of Indigenous Linguistics Rights was signed in 2003, which recognized 62 different languages within the country of Mexico.

The Zapotec

- Oaxaca is the homeland of the Zapotec, a people who were already subjugated at Spanish contact. There were Aztec garrisons in the Valley of Oaxaca, and the Zapotec paid tribute to the foreigners. It was not a significant leap for the Zapotec to surrender to the Spanish without a fight.

- Sadly, surrender did not save them. Disease swept over Oaxaca quickly. In the Valley of Oaxaca, a 1521 Aztec census recorded 350,000 people. However, a 1650 census recorded only 300,000. At that time, this sparse population was spread over a vast area. Black slaves were actually imported from the Caribbean because there were no natives left to enslave.

- But the population replenished over the centuries. Today's census in the Valley of Oaxaca is 777,000 Zapotec. In reality, the number is probably more than 1 million. The Zapotec cover all of central, south, and east Oaxaca now, and most are town-dwelling peasant farmers. Other Zapotec have migrated out of Oaxaca. In fact, there are tens of thousands of people of Zapotec heritage living in the United States.

Keeping the Ball Game Alive

- Zapotec make up the main indigenous culture in the Mexican state of Sinaloa. The original native population of Sinaloa is doing something significant to preserve ancient culture: keeping the Mesoamerican ball game alive.

- Locals play a game called *ulama*—the Aztec word for "ball game." *Ulama* seems to be quite similar to the ancient ball game. It has been played as long as anyone in Sinaloa can remember. What's more, it is played with a conscious recognition that it is performed in honor of the ancestors.

- There are three different versions of the game in Sinaloa: *ulama de cadera*, which is hip ball; *ulama de antebrazo*, or

© Madman2001/Wikimedia Commons/CC BY 2.5.

Ulama **has been in Sinaloa since before Spanish contact, but now, after centuries, only about 150 people still play the game.**

forearm ball; and *ulama de palo*, which is stickball. Hip ball is the most popular, played with a seven-pound solid rubber ball, with the players wearing leather hip pads. Five or more players are on each side of the court.

- Forearm ball is gentler. It is played with one to three people on either side, and players hit a lighter, smaller ball back and forth with their forearms. Because women are not allowed to play hip ball, they often play forearm ball.

- Stickball is played by hitting a very small ball with paddles weighing about 15 pounds each. The images on the wall of the ball court at Chichen Itza also depict ball players holding bats. Chichen Itza was influenced by Tula, and Tula is not very far from Sinaloa.

- The ball games are scored in the same way. A point, called a *raya*, is scored when the ball goes out of the back of the opponent's court. Eight *rayas* will win the game. But if the game is tied at the end of a particular turn, both teams reset to zero—which can make the game last a very long time. The record length for a game in Sinaloa is two days.

The Huichol

- Just south of Sinaloa are the states of Jalisco and Nayarit. Up in the rugged mountains of those states lives a group of indigenous people who many consider to be Mexico's most traditional people: the Huichol. There are about 50,000 Huichol people today, living in the high Sierra Madres. They are very isolated there—or they were until the 1900s.

- Guadalajara's expansion lowered the water table in the entire area; thus, there are now fewer opportunities for hunting, and crops are not as easy to grow. Many of the Huichol have been forced out of their communities down into the plains, where they work on tobacco farms.

- The Huichol say that they migrated from a location near San Luis Potosi, and they make a pilgrimage back there every year. The Spanish reported these pilgrimages as early as the 1500s. But at that time, the Spanish said the Huichol were bellicose and had no gold; for these reasons, they were left alone.

Peyote Hunt

- Huichol religion revolves around the worship of four independent entities: deer, corn, rain, and peyote. Together, they create a symbolic cycle of human life. An annual pilgrimage, an arduous desert journey, is made between October and March that ties the entities together. The Huichol start in the Sierra Madres and travel 500 kilometers to a place called Wirikuta. The journey to and from Wirikuta takes a month.

- Arriving at Wirikuta, the Huichol hunt peyote. They look for what they call a peyote family, a cluster of five peyote buttons. The pilgrims make a tiny altar next to the buttons and give them thanks. Then, they gather up the peyote and eat it that evening.

- Around the fires in the evening, the elders tell the creation story. According to this story, the first men crossed the desert and arrived at a place called the Hill at Dawn, where the sun was born. When they arrived, the deer sacrificed themselves so that men could eat, and peyote is said to grow out of the dead bodies of the deer. When the men ate the peyote, they became gods.

- Research on rock art in the canyons of the Pecos River in Texas suggests that this peyote ritual has been going on for 4,000 years. In the 1990s, archaeologist Carolyn Boyd made some astonishing discoveries in the depictions at the White Shaman Cave.
    - One depiction at the cave shows five men walking. Nearby are deer with dots on their antlers. In other areas are men with spears standing near a hill.

- Boyd literally connected the dots. She matched those images to the symbols of the Huichol pilgrimage: the walk, the hunt, the Hill at Dawn, and the peyote buttons, which are the small dots.

Curanderismo

- Most indigenous people—at home and in their own minds—are still strongly connected to their ancestors. The Nahua, living in Central Mexico, are an excellent case in point.

- The Nahua are Aztec descendants. Broadly, the group comprises anyone who speaks Nahuatl. The census reports about 2.4 million Nahua in Mexico today. They are dissimilar to such groups as the Huichol or Zapotec in that they do not wear traditional dress, and most live in urban settings.

- Although they may not look the part, the Nahua have strong native traditions. One of the best examples is the native healing practice called *curanderismo*. *Curanderos* heal people through prayers and visions and by using plant medicines. *Curanderos* speak to the plants, which have living spirits.

- The roots of *curanderismo* are clearly in shamanism. The source of a healer's power is the same source as another native practice that is much worse: witchcraft. Although people in modern-day Mexico City will not admit it, a *curandero* is a good witch. The same spirit power can also be used by bad witches, who ask the spirits to hurt or even kill people. The practice focuses on contact with the supernatural.

- Unfortunately, traditional life in Mexico is disappearing at an accelerated rate. Many indigenous practices have come to a permanent end. In some parts of Mesoamerica, ancient practices and cultural traditions are seen as impractical. But as we'll see in the next lecture, some modern Maya communities are in the middle of a cultural revival.

Suggested Reading

Morris Jr. and Foxx, *Living Maya*.

Spores and Balkansky, *The Mixtecs of Oaxaca*.

Stuart, *The Mighty Aztecs*.

Questions to Consider

1. Do you think the Mexican census is fairly counting its modern indigenous population?

2. Is tourism a good or a bad thing for indigenous ways of life?

3. Can today's remaining indigenous traditions survive modern technology?

Maya Survival and Revival

Lecture 47

Maya traditions, religious ceremonies, and cultural practices are still very much alive today. Guatemala was and still is the heart of Maya civilization. A full 80 percent of Guatemalans are Maya—about 10 million people. They wear the traditional native clothing; they live in houses of thatch and stone; and they practice farming and trading in the markets—just as their ancestors did. In this lecture, we'll discuss the ways in which the Maya have taken the lead in reclaiming their own cultural heritage.

Maya Languages

- There are 21 different Maya languages in Guatemala and 8 more in Mexico. K'iche is the largest in Guatemala, with about 1 million speakers. Mam is next, with about 500,000 speakers. The Kakchiquel language ranks third, at 400,000 speakers.

- The tiniest language group is the Itza Maya, which has nearly disappeared. Only seven people on the planet speak Itza Maya. All of them are very old and live in one village, San Jose, on Lake Peten Itza. Sadly, because the young are not learning the language, Itza Maya will most likely disappear within the decade.

- The strongest Maya cultural traditions are in the highlands. There, the people still live in traditional houses; they cook on hearths in the middle of their homes; and they gather firewood from the forest and water from the rivers. Millions of them live separated from the formal economy. They have a general distrust of the government and big business.

Day Keeping

- The best evidence of Maya cultural survival is the tradition of day keeping. In each community are specialists called day keepers, Maya priests with powers of divination. They keep and honor

© AlejandroLinaresGarcia/Wikimedia Commons/CC BY-SA 3.0.

In the highlands, Maya women still use backstrap looms, retaining the beautiful textile traditions of their ancestors.

the days of the Tzolk'in calendar. They haven't missed a day in 3,000 years.

- In the tradition of day keeping, each of the 260 days is a living being, with its own personality and soul. These spirits are part of a larger world called the Mam. People possess the qualities of the day on which they were born.

- People approach day keepers with questions about what days are auspicious or how to cure illnesses. Day keepers ask the spirits of the days for guidance. Day keepers use a bag of seeds and crystals to understand the will of the Mam. As they count the seeds, they wait to feel what they call "lightning blood."

- Lightning blood is a tingling in some part of the body. When the day keeper feels it, the count stops, and the body part provides the answer to the problem. Usually, those solutions involve offerings to particular shrines.

Maya Fire Ceremony

- There are said to be 260 shrines in Guatemala, each named for a specific day of the calendar they represent. Fire ceremonies are held at these shrines, run by day keepers. During the ceremony, the day keeper lights a fire and puts candles around it. Incense, chocolate, and other items are put in the fire. The ceremony involves naming and honoring all 260 days. A typical ceremony takes about four hours.

- This ritual is not seen as in conflict with Christianity. There are many day keepers who are also devout Christians. Their offerings and prayers are sometimes made in churches, representing a phenomenon called *syncretic religion*—the peaceful combination of two religions.

- Unfortunately, not all Christians are open to syncretic religion. Many Maya shrines have been desecrated. In Guatemala in former times, it was more than just the Maya shrines that were attacked. In fact, for decades, Maya people in Guatemala were the victims of an extermination program perpetrated by their own government.

Rigoberta Menchu

- The trouble started in the 1950s as a backlash to Guatemala's democratic elections following World War II. The leftist government was replaced by a military dictatorship, which sought to suppress the rebellion. Because the Maya population was part of that rebellion, the government's attack was against an ethnic group.

- Traditional Maya life was branded communist. The Maya were restricted in travel, and there were bans on the Maya language. The violence escalated in the 1970s. Maya people disappeared in the thousands. The military would raid villages and remove the men, ignoring their civil rights. The worst came in the 1980s, when Efrain Rios Montt authorized mass executions of Maya.

- But then Rigoberta Menchu wrote her famous book, titled *I, Rigoberta Menchu*, the story of her experiences as an indigenous woman in Guatemala and the horrors she witnessed. In 1992, she

won the Nobel Peace Prize. The book eventually led to a peace accord in Guatemala in 1996. The government officially ceased hostilities against the Maya. The genocide against the Maya was one of the worst in history; more than 200,000 Maya were dead or missing by the time it ended.

Zapatista Movement

- Today, Maya culture is honored in Guatemala. A government department was created to address discrimination and racism. The government has permitted altars where the Maya can conduct fire ceremonies. A day keeper association flourishes, with more than 6,000 members.

- Although the Maya Guatemala are no longer persecuted, they have problems across the border in Chiapas, Mexico. A series of bad land deals left the Maya there at the mercy of the coffee industry. The situation sparked the Zapatista revolution, which began on January 1, 1994.

- The Maya coordinated a series of attacks in multiple highland towns. The rebels called themselves Zapatistas after Emiliano Zapata, the Mexican revolutionary leader. The Zapatistas wanted autonomy, not secession. They adopted January 1, 1994, as their start date, in part because that was the first day of the initiation of the North American Free Trade Agreement.

- The Zapatistas continue to be a strong Maya movement even today. The Zapatista movement sprung from a Maya community in the Chiapas highlands. There are dozens of Maya villages around San Cristobal de Las Casas. The largest community is Chamula, with a population of about 50,000 people. Tzotzil Maya is spoken in the streets there. No government police or military are allowed in; the community has its own police force.

Syncretic Religion

- Chamula's church is an excellent example of syncretic religion—it is both Maya and Catholic. However, no traditional masses have

been celebrated there since 1968. Today, the floor is covered in pine needles, and there are no pews. Families sit on the floor praying and sacrificing chickens.

- The Maya allow baptisms in the church once every 20 days. There are statues of saints along the walls, but now they have mirrors on their chests—reminiscent of Maya shamanic images from the Classic period.

- According to the Maya, there is always a fixed amount of suffering in the world. Only by accepting suffering can one relieve someone else's suffering. Therefore, sacrifices consist of offerings in tears. As a result, an odd profession has arisen: professional criers.

The Lacandon

- The Lacandon Maya live deep in the forests of eastern Chiapas. Until recently, they were perhaps the most traditional group of Maya people. There were no paved roads into the Lacandon area until the 1980s. The Lacandon were very primitive at contact; they wore robes made out of tree bark. Both men and women wore their hair long and hunted with bows and arrows.

- What's more, the Lacandon followed a unique pantheon of gods. They prayed to a main god called Hacha'kyum. They had what they called *god houses* that held *god pots*. These pots were created from clay and tended for 52 days, after which, they were broken into pieces. The god pots were symbols of the cyclical nature of life.

- Very few Lacandon are left today—some estimate fewer than 1,000. They live in three villages: Naja, Lacanja, and Metzabok. The Lacandon are slowly becoming Christians, especially at Lacanja near Bonampak. In the 1990s, the Lacandon took over the ruins of Bonampak, claiming it as their ancestral property. The National Institute of Anthropology and History (INAH) still controls the site, but the Lacandon control the entrance.

Mayas for Ancient Mayan (MAM)

- An exciting development is the recent movement by modern Maya people to regain their written language. After almost 500 years, the modern Maya can once again read and write in the hieroglyphic script of their ancestors. The movement began in the late 1980s; it arose out of Linda Schele's seminars in Texas to teach Maya hieroglyphs.

- In 2005, an organization called the Friends of the Maya sponsored Maya travel to the Texas Maya meetings, as well as workshops in Maya communities. The Maya began to present their own research, and the first Maya teachers were fully trained.

- In 2012, Friends of the Maya became an international association called Mayas for Ancient Mayan (MAM). The association holds workshops taught purely by Maya to other Maya. The students not only read Maya texts but also write Maya hieroglyphs. New stelae are now being erected in Guatemala and Yucatan.

- The descendants of the Maya, the Zapotec, and the Aztec number in the millions today. And they have much to contribute to the study of their ancestors. What's more, they have an inherent right to be part of that conversation.

Suggested Reading

Collier, *Basta!*

Menchu, *I, Rigoberta Menchu*.

Restall, *The Maya World.*

Tedlock, *Time and The Highland Maya*.

Questions to Consider

1. Do you think there will come a day when modern Mesoamerican people will be once again in charge of relating their own histories?

2. Are the days of indigenous persecution behind us, or are we just living in a temporarily more peaceful time?

3. What are the greatest mysteries about Mesoamerica that remain to be solved?

Frontiers of Mesoamerican Archaeology

Lecture 48

Although some people think that all the major cities of ancient Mesoamerica have already been found, that is far from true. Less than 1 percent of Mesoamerica has been professionally surveyed and studied, especially in the jungle areas. In fact, the central part of Yucatan is mostly unknown. However, every tiny village in the middle of nowhere knows the ancient cities in that area, and the villagers are willing to lead archaeologists to see them. To conclude this course, we'll explore the frontiers of Mesoamerican archaeology and discuss what is left to discover—and where to find it.

Unknown within the Known

- Ivan Sprajc, a Slovenian archaeologist, has done 20 years of survey work in southern Campeche. In a systematic search of the jungles since the 1990s, he and his team have found more than 90 cities.

- Some are midsized cities, but others are truly massive. Sprajc has found pyramids taller than 30 meters, as well as hundreds of stelae. Many of the stelae have hieroglyphs dating back to the Classic period. What Sprajc has found has profoundly changed our knowledge of the extent of the Classic period.

- Just south of Sprajc's survey area is the northwestern Peten jungle—one of the largest areas yet to be explored. Archaeologist Richard Hansen has been working at El Mirador for 20 years now and has looked to the west of that area. However, he has much work to do at El Mirador. One of the most significant frontiers of Mesoamerican archaeology is the search for the unknown within the known.

Tikal and Palenque

- Dozens of ancient cities across Mesoamerica have been known for decades, some of them for more than 100 years. Many of those cities have been the subject of intensive excavation and study. Still,

because they encompass wide areas, even the best known have been only fractionally revealed.

- Tikal is an excellent case in point. It's one of the best-known Maya cities, but archaeologists have just scratched the surface. Within Tikal's core, the ceremonial center, archaeologists have mapped hundreds of temples, but only about 50 have been excavated.

- In fact, Tikal's most famous temple, Temple IV, still has its entire base covered with trees. Excavations of that base finally started in 2008, but archaeologists are not nearly finished. Visitors to Tikal see buried structures everywhere.

- At Palenque, even after 100 years of archaeology, a 3-year survey found more than 1,000 new buildings—including the largest temple at Palenque, which was actually larger than its palace. To date, at Palenque, only 40 structures have been excavated. The map shows about 1,500 structures—only 2.5 percent of the city has been excavated in 100 years.

Nohpat, Xultun, and Sak Tz'i

- Other major cities have not seen any archaeological research at all. The city of Nohpat, a crucial Terminal classic site in Yucatan, has a temple that is so huge, it can be seen from the site of Uxmal far away.

- Xultun is a megacity in the Peten, possibly even larger than Tikal. Xultun has been known since 1915, and archaeologists have recorded many stelae there, but excavations did not begin until 2008.

- In 2010, researchers found a small house that they identified as an astronomer's house, and on the walls were all sorts of calculations. This significant find taught us much about the kinds of data that Mesoamerican astronomers collected. This is just the beginning of work at Xultun.

- There are some cities named in the hieroglyphs that have yet to be found, such as Sak Tz'i, the enemy city we see in the murals of

Bonampak. That same site is also mentioned at Piedras Negras and Yaxchilan, and archaeologists have no idea where it is.

- Sak Tz'i was clearly a major city, and scholars have a partial list of its kings from other sites. What's more, there is a looted Sak Tz'i stela in Europe, meaning that someone knew the location of Sak Tz'i.

Ancient Mesoamerica underneath Modern Cities

- When the Spanish arrived in Mesoamerica, there were already hundreds of cities located strategically near resources and with functioning infrastructure. It would not have made sense to build entirely new cities when perfectly good ones already existed. As a result, much of ancient Mesoamerica lies underneath modern cities.

- Mexico's largest city sits on top of the Aztec capital, Tenochtitlan. Subway construction projects located parts of the old city underneath Mexico City. In 1978, street projects located the base of the Templo Mayor, its main temple.

- Traces of the old city are being looted and destroyed. Hundreds of thousands of artifacts have already been stolen from Tenochtitlan. Recently, however, the National Institute of Anthropology and History (INAH) started a new initiative called the Urban Archaeology Program. All around the city, archaeologists are conducting controlled excavations. Their goal is to better understand the life of the Aztec common people. Such research is called *household archaeology*, and it is an admirable trend.

- Guatemala City is built on top of the ancient city of Kaminaljuyu—the highlands' greatest ancient city. A shopping mall sits right over one of its major temple groups. A large city park in Guatemala City contains massive temples that are vitally important because they are built in the Teotihuacan style. They hold clues to Teotihuacan's entrada into the highlands.

Hiding in Plain Sight

- Ancient cities are not just underneath modern cities; they are also found buried under remote villages and towns. Underneath the town of Frontera Corozal are multiple stone monuments sitting atop an ancestral site.

- In a humble village called Chajul in the highlands of Guatemala, an ancient mural was found behind the plaster wall of an abandoned house. That mural depicts a Maya lord sitting in a Spanish-style chair, with other Maya dancing around him in European clothes. It has been interpreted as an illustration of a victory dance after the Maya won a battle against the Spanish.

- The fact that the mural dates from the 1600s was enlightening. Archaeologists thought that the Maya had been conquered by that time. Apparently, however, the Maya who lived in Chajul were still resisting the Spanish in the 1600s. Other houses in Chajul are revealing yet more murals—a fine example of evidence and artifacts hiding in plain sight.

Cenote Diving

- There is another place where undiscovered evidence lies just underneath our feet: in caves and cenotes. Yucatan has thousands of cenotes. Chichen Itza's cenote held astonishing finds.

- Archaeologist James Brady pioneered cenote diving; he explored many cenotes in the 1980s and 1990s, revealing that offerings were made in cenotes everywhere, not just at Chichen Itza. Today, a university in Merida has a diving program, with the first underwater archaeology professor, Guillermo de Anda.

- Anda has found architecture inside caves, with roads and temples leading under the water. His believes that these structures are evidence that at some point, the water table was much lower, and ladders were built inside the caves to seek water. If he is correct, these are new insights into the challenges Mesoamericans faced during drought periods.

© Saihedine/Wikimedia Commons/CC BY-SA 2.5.

Today, cenote diving is opening new doors to our understanding of Maya life and religion.

Cave Archaeology

- In Mesoamerica, caves are significant symbolic places. They are entrances to the land of the dead. Consider the Olmec cave paintings in Chalcatzingo, or the cave underneath Teotihuacan's Pyramid of the Sun, or the Aztec origin stories of the Place of 7 Caves in Chicomoztoc.

- Important caves, such as Naj Tunich in the Peten, have taught archaeologists much. Naj Tunich has hieroglyphs on the walls and dozens of texts—all in perfect condition. Excavations have revealed stone tombs with elite burials and offerings.

- Loltun Cave in Yucatan has charcoal handprints that date to 10,000 years ago. These are the tiny hands of Maya people. There are also bison and mammoth bones in the cave—evidence that extends Maya history back for 7,000 years.

- Caves are an excellent frontier for discovery. What's more, the constancy of climate in a cave makes for excellent preservation

of artifacts. The Grolier Codex was found in a cave in Chiapas in 1974.

Goals for the Next Generation of Archaeologists

- For an archaeologist studying Mesoamerica, one of the major goals is additional mapping. An ideal mapping project would be to find another Preclassic megacity in the Peten. Northwest Guatemala remains virtually untouched, with hardly any modern settlement.

- A second ideal project would be to find the evidence of South American settlements in western Mexico. Metallurgy finds in western Mexico prove that there was contact with South America. Metal works first show up in western Mexico about 300; then, there was a hiatus until about 1100, when the Mixtec placed gold into Tomb 7 at Monte Alban.
    - In deciding where to look for these settlements, archaeologists should consider this: When Cortes wanted to assess the gold resources of Mexico, he sent Spaniards along with guides to find the mines. They came back with reports that gold and silver were being taken out of certain riverbeds.

    - Archaeologists know where those riverbeds are, and that is where we will find South American settlements, as well.

- A third goal—and the most ambitious—is to find an Olmec Pompeii. Olmec monuments were made of basalt quarried from around volcanoes. El Chichon is an active volcano near the Olmec area in northwest Chiapas.
    - El Chichon erupted massively multiple times in human history. It exploded around 800, and some scholars believe this was connected to the Classic period Maya collapse.

    - El Chichon also erupted three times during Olmec times. There is a good possibility that it buried cities in one of these eruptions.

A Quickening Pace of Discovery

- In Mesoamerica, there is much left to find and to understand. Even in the best-studied ruins, archaeological knowledge is based on only a fractional sample. The existence of the Aztec capital was unknown until the 1960s. The Maya code of hieroglyphics was not broken until the 1970s. And, unfortunately, looting continues to outpace archaeology.

- On the other hand, the pace of discovery is quickening every year. The need for further investigations is clear and present—and downright exciting.

Suggested Reading

Blom and La Farge, *Tribes and Temples*.

Questions to Consider

1. What are the current ideas about Mesoamerican life ways that you think are the most likely to be completely wrong?

2. If you could run an archaeological project anywhere in Mesoamerica, where would you do it?

Bibliography

Adams, Richard. *Prehistoric Mesoamerica*. Rev. ed. University of Oklahoma Press, 1996. A rare textbook that covers the entire region of Mesoamerica; written by one of the most well-respected of archaeologists doing work in the 1970s and 1980s.

Adams, Richard E. W., and R. C. Jones. "Spatial Patterns and Regional Growth among Classic Maya Cities." *American Antiquity* 46 (1981): 301–332. Adam's theory that Classic Maya cities were spaced at least 20 kilometers away from one another.

Aldana y Villalobos, Geraldo, and Edwin L. Barnhart, eds. *Archaeoastronomy and the Maya*. Oxbow Books, 2014. A collection of papers on the astronomical alignments of temples, astronomy in codices, and the lunar series.

Andrews, E. Wyllys V. "Dzibilchaltun." In *Supplement to the Handbook of Middle American Indians*. Vol. 1, *Archaeology*. Edited by V. R. Bricker and J. A. Sabloff, pp. 313–341. University of Texas Press, 1981. Andrews conducted seasons of excavations at Dzibilchaltun in the 1960s and 1970s. This report is an excellent summary of his findings.

Andrews, George. *Maya Cities: Placemaking and Urbanization*. University of Oklahoma Press, 1975. One of the first publications to explain Maya cities as urban places rather than isolated ceremonial centers.

Ashmore, Wendy. "The Classic Maya Settlement at Quirigua." *Expedition* 23, no. 1 (1980): 20–27. One of the first papers to discuss Quirigua's importance as a Classic Maya city.

———, ed. *Lowland Maya Settlement Patterns*. University of New Mexico Press, 1981. A collection of papers focused on surveys of the residential areas surrounding the ceremonial centers of the Peten rainforest.

Aveni, Anthony F. *Sky Watchers of Ancient Mexico*. Rev. ed. University of Texas Press, 2000. A great source for information on

Mesoamerican archaeoastronomy written by one of the fathers of the field of archaeoastronomy.

———, ed. *Foundations of New World Cultural Astronomy: A Reader with Commentary*. University of Colorado Press, 2008. A large volume of many important papers written over the years about New World archaeoastronomy. A great collection picked by Aveni.

Barnhart, Edwin. "The First Twenty Three Pages of the Dresden Codex, the Divination Pages." 2005. Online at www.mayaexploration.org/research_pubs.php. A report translating the texts of each almanac of the first 23 pages and the mathematics behind the tables.

———. *The Palenque Mapping Project: Settlement and Urbanism in an Ancient Maya City*. Dissertation presented to the University of Texas at Austin Anthropology Department, 2001. Online at www.mayaexploration.org/research_pmp.php. The report and conclusions from a three-year survey and mapping project that located more than 1,100 new structures at the Classic Maya city of Palenque.

———. "Residential Burials and Ancestor Worship: A Reexamination of Classic Maya Settlement Patterns." Paper presented at the Third Palenque Round Table, Palenque, Chiapas, Mexico, 1999. Online at www.mayaexploration.org/research_pubs.php. A paper about how the practice of burying the dead under houses and venerating the graves gives a false impression of how many homes were actually living spaces in the Classic period.

Blom, Franz, and O. La Farge. *Tribes and Temples*. MARI Publications 1 and 2. 1926–1927. The report of Blom and La Farge's extensive survey of the ruins of Chiapas and Tabasco. A record of dozens of major cities, many of which are still yet to be further studied.

Braswell, Geoffrey E., ed. *The Maya and Teotihuacan: Reinterpreting Early Classic Interaction*. University of Texas Press, 2003. A collection of papers discussing the evidence of how and why Teotihuacan reached down into the Maya world.

Bricker, Victoria. *The Indian Christ, the Indian King: The Historical Substrate of Maya Myth and Ritual*. University of Texas Press, 1981. Focused on post-contact Yucatan Maya, the Caste Wars, and the Books of Chilam Balam. Great insights into how Maya cultural traditions persisted into the post-contact period.

Butterwick, Kristi. *Heritage of Power: Ancient Sculpture from West Mexico, the Andrall E. Pearson Family Collection*. Yale University Press, 2004. A catalog and discussion of the west Mexico artifacts in the Metropolitan Museum of Art in New York City. Includes a discussion of west Mexico's ancient history and the history of archaeological research.

Byers, Douglas S., ed. *The Prehistory of the Tehuacan Valley: Environment and Subsistence*. University of Texas Press, 1967. A collection of papers about early evidence of domestication of crops in the Tehuacan Valley. Includes MacNeish's early rock shelter studies.

Byland, Brice, and John Pohl. *In the Realm of 8 Deer: The Archaeology of the Mixtec Codices*. University of Oklahoma Press, 1994. A book detailing the archaeological quest to find and document the cities and towns mentioned in the Mixtec codices written in the 11th and 12th centuries A.D.

Carrasco, David. *The Aztecs: A Very Short Introduction*. Oxford University Press, 2012. A short but very inclusive summary of Aztec civilization by a leading Aztec authority.

———. *Quetzalcoatl and the Irony of the Empire: Myths and Prophecies in the Aztec Tradition*. University of Chicago Press, 1992. A discussion of Quetzalcoatl's importance to the Aztecs, both as a role model of civilized behavior and a feared prophecy of his return to reclaim his throne.

Christenson, Allen J. *Popol Vuh: The Sacred Book of the Maya*. O Books, 2003. A masterful translation by a scholar fluent in Quiche Maya. This edition catches many double meanings that other translations do not.

Clark, John E., and Mary E. Pye, eds. *Olmec Art and Archaeology in Mesoamerica*. National Gallery of Art, 2006 (distributed by Yale University

Press). A collection of papers about Olmec settlement patterns, artifacts, cultural evolution, and art.

Coe, Michael D. *Breaking the Maya Code*. 3rd ed. Thames and Hudson, 2012. The story of how the Maya script was finally deciphered and the people who did it.

———. *The Maya*. 8th ed. Thames and Hudson, 2011. A well-written textbook on Maya civilization.

Coe, Michael D., and Rex Koontz. *Mexico: From the Olmecs to the Aztecs*. 7th ed. Thames and Hudson, 2013. The best textbook for an overview of all Mesoamerican cultures except the Maya. The Maya are covered in Coe's book *The Maya*.

Coe, Michael D., and Mark Van Stone. *Reading the Maya Glyphs*. 2nd ed. Thames and Hudson, 2011. The most up-to-date text on how to read Maya hieroglyphics.

Coe, Sophie D. *America's First Cuisines*. University of Texas Press, 1994. A well-researched book about the foods eaten by the Maya, the Aztec, and the Inca. Includes recipes and how they were prepared.

Coggins, Clemency. *Cenote of Sacrifice: Maya Treasures from the Sacred Well of Sacrifice at Chichen Itza*. University of Texas Press, 1984. A description and discussion of many of the artifacts that were dredged from the main cenote at Chichen Itza.

Collier, George A. *Basta! Land and the Zapatista Rebellion in Chiapas*. Rev. ed. First Food Books, 1999. A detailed history of the events that led up to the Zapatista revolution, who actually led it, and how it ended up affecting the Maya communities of the Chiapas highlands.

Diaz, Bernal. *The Conquest of New Spain*. Translated by J. M. Cohen. Penguin Books, 1963. The firsthand account of Cortes's expedition to Mexico and defeat of the Aztecs. Told by a soldier who was with Cortes the entire time.

Diehl, Richard A. *The Olmecs: America's First Civilization*. Thames and Hudson, 2004. A textbook-style overview of Olmec civilization. A great single source for Olmec history.

———. *Tula: The Toltec Capital of Ancient Mexico*. Thames and Hudson, 1983. An in-depth study of Tula based on the field projects conducted over a decade on the site. The most complete source of information on the city.

Duran, Fray Diego. *Book of the Gods and Rites and the Ancient Calendar*. Translated and edited by Fernando Horcasitas and Doris Heyden. University of Oklahoma Press, 1971. A chronicle written by a Spaniard who grew up in Mexico just after the conquest. An unparalleled source for understanding Aztec ritual life.

Edmonson, Munro S., trans. *The Ancient Future of the Itza: The Book of Chilam Balam of Tizimin*. University of Texas Press, 1982. A translation of one of the Books of Chilam Balam. A great primary source document for the history of Yucatan as recorded by the Maya themselves.

Fash, William. *Scribes, Warriors and Kings: The City of Copan and the Ancient Maya*, Thames and Hudson, 1991. A complete description of Copan's recent history up until the late 1980s.

Foster, George M. *Tzintzuntzan: Mexican Peasants in a Changing World*. Little Brown, 1967. An ethnography about modern Tzintzuntzan and its inhabitants. The study harkens back to the pre-Columbian times to explain the culture traditions still alive today.

Freidel, David, Linda Schele, and Joy Parker. *Maya Cosmos: Three Thousand Years on the Shaman's Path*. William Morrow and Company, 1993. A groundbreaking study of the connections between modern Maya star lore and ancient Maya astronomy.

Gruzinski, Serge. *The Aztecs: Rise and Fall of an Empire*. Harry N. Abrams, 1992. A small book with accurate information and great full-color photos from the colonial period.

Harris, John, and Stephen Stearns. *Understanding Maya Inscriptions*. University of Pennsylvania Museum, 1992. A simple primer for learning to translate Maya hieroglyphs.

Haviland, William. "A New Population Estimate for Tikal, Guatemala." *American Antiquity* 34 (1969): 424–433. One of the first reports to present Tikal's extremely large population estimate.

———. "Tikal, Guatemala and Mesoamerican Urbanism." *World Archaeology* 2 (1970): 186–198. An early paper arguing for the urban nature of the city of Tikal.

Jones, Grant D. *The Conquest of the Last Maya Kingdom*. Stanford University Press, 1998. The history of how the Itza of Lake Peten were finally defeated by the Spanish in the 1600s. Very well researched and compiled from numerous colonial-period documents.

Kan, Michael, Clement Mieghan, and H. B. Nicholson. *Sculpture of Ancient West Mexico: Nayarit, Jalisco, Colima, a Catalogue of the Proctor Stafford Collection at the Los Angeles County Museum of Art*. Los Angeles County Museum of Art, 1989. Photo catalog of the collection accompanied by papers about various archaeological sites and the tradition of shaft tomb burials.

Knab, Timothy J. *A War of Witches: A Journey into the Underworld of the Contemporary Aztecs*. HarperSanFrancisco, 1995. The author's experience being trained as a modern-day witch in a Nahuat community near Puebla. Great description of modern beliefs about ancient religion.

Koontz, Rex. *Lightning Gods and Feathered Serpents: The Public Sculpture of El Tajin*. University of Texas Press, 2009. An in-depth discussion of the stone carvings of El Tajin and interpretations of what they depict, from a scholar who has studied the site for more than 20 years.

Kowalski, Jeff K., and Cynthia Kristan-Graham, eds. *Twin Tollans: Chichen Itza, Tula, and the Epiclassic to Early Postclassic Mesoamerican World*. Dumbarton Oaks, 2011. A collection of papers that challenge old ideas regarding the relationship between Tula and Chichen Itza.

Kricher, John. *A Neotropical Companion: An Introduction to the Animals, Plants and Ecosystems of the New World Tropics*. 2nd ed. University of Princeton Press, 1997. A biologically oriented field guide to the New World tropics. A very complete source of information.

Landa, Friar Diego de. *Yucatan before and after the Conquest*. Translated by William Gates. Dover Publications, 1978. An abridged version of Landa's *Relation of Things of Yucatan* with extra notes by Gates. Landa's chronicle is the single best source of information about the Maya at the time of conquest.

Leon-Portilla, Miguel. *Fifteen Poets of the Aztec World*. University of Oklahoma Press, 1992. A well-documented collection of Aztec poetry; organized by time period and region.

Lothrop, Samuel K. *Tulum: An Archaeological Study of the East Coast of Yucatan*. The Carnegie Institute of Washington, 1924. The report of the first professional archaeological project conducted at Tulum. Many photos of things that are now gone.

Malmstrom, Vincent H. *Cycles of the Sun, Mysteries of the Moon: The Calendar in Mesoamerican Civilization*. University of Texas Press, 1997. Theories about where and how the Maya calendar was created and how it's linked to astronomy, especially the solar zenith passage.

Marcus, Joyce, and Kent Flannery. *Zapotec Civilization: How Urban Society Evolved in Mexico's Oaxaca Valley*. Thames and Hudson, 1996. An exhaustive study of chronology and population estimates in the Oaxaca Valley based on the authors' extensive surveys of the region.

Martin, Simon, and Nikolai Grube. *Chronicle of the Maya Kings and Queens: Deciphering the Dynasties of the Ancient Maya*. 2nd ed. Thames and Hudson, 2008. One of the most recent books on ancient Maya politics and the first to discuss it as written history instead of anthropology.

Maudslay, Alfred. *Biologia Centrali-Americana: Archaeology*. 5 vols. R. H. Porter and Dulau and Co., 1889–1902. A five-volume set of all of the photos taken of the Maya ruins at the turn of the 20th century.

Maxwell, Judith, and Robert Hill. *Kaqchikel Chronicles*. University of Texas Press. 2006. A collection and translation of various Maya written documents from the highlands of Guatemala that discuss their pre-Columbian history and fateful meeting with the Spanish conquistadors.

Menchu, Rigoberta. *I, Rigoberta Menchu: An Indian Woman in Guatemala*. Edited by Elisabeth Burgos-Dabray and translated by Ann Wright. Verso, 1984. The prize-winning story of a woman growing up during the worst years of the Maya genocide in Guatemala.

Michels, Joseph W. *The Kaminaljuyu Chiefdom*. Pennsylvania State University Press, 1979. A comprehensive study of Kaminaljuyu and its area of influence from 500 B.C. to A.D. 1500.

Milbrath, Susan. *Star Gods of the Maya: Astronomy in Art, Folklore and Calendars*. University of Texas Press, 1999. A detailed review of both modern and ancient Maya astronomy ordered by observation phenomena.

Miller, Arthur G. *On the Edge of the Seas: Mural Painting at Tancah-Tulum, Quintana Roo, Mexico*. Dumbarton Oaks, 1982. Wonderful reproductions and explanations of Tulum's murals. Also a good argument for an Aztec presence in the city's late history.

Miller, Mary. *The Art of Mesoamerica: From Olmec to Aztec*. 3rd ed. Thames and Hudson, 2001. In-depth discussions of Mesoamerican art and iconography, organized chronologically through time and space.

Miller, Mary, and Karl Taube. *The Gods and Symbols of Ancient Mexico and the Maya: An Illustrated Dictionary of Mesoamerican Religion*. Thames and Hudson, 1993. Descriptions of Mesoamerican gods and religious terms arranged alphabetically. One of the few publications to cover Mesoamerican religion as a whole.

Millon, Rene. *The Study of Urbanism at Teotihuacan, Mexico*. Vol. 1. University of Texas Press, 1974. Millon's conclusions about the city's urban nature after completing his landmark survey of the valley.

———. "Teotihuacan." *Scientific American* 216, no. 6 (1967): 38–48. The results of Millon's survey of Teotihuacan, presenting its massive population size.

Morris, Walter F., Jr., and Jeffrey Jay Foxx. *Living Maya*. Harry N. Abrams, 1987. Studies connecting modern Maya textile traditions with ancient weaving techniques and iconographic symbolism.

Nuttall, Zelia, ed. *The Codex Nuttall: A Picture Manuscript from Ancient Mexico*. Dover Publications, 1975. A full-color publication of the 86-page Mixtec Codex Nuttall with an introduction by Arthur Miller.

Paddock, John, ed. *Ancient Oaxaca: Discoveries in Mexican Archaeology and History*. Stanford University Press, 1970. A collection of early papers and theories about Oaxaca's development; includes a great deal of information about Monte Alban and the Valley of Oaxaca.

Pool, Christopher A. *Olmec Archaeology and Early Mesoamerica*. University of Cambridge Press, 2007. An archaeologist's perspective on the Olmecs—focused on environmental adaptation and material culture. Good information on the Olmec trade network.

Powell, Christopher. *The Shapes of Sacred Space: A Proposed System of Geometry Used to Layout and Design Maya Art and Architecture and Some Implications Concerning Maya Cosmology*. Dissertation presented to the University of Texas at Austin Latin American Studies Department. 2008. Online at www.mayaexploration.org/research_pubs.php. A groundbreaking study showing the existence of a set of repeated proportions used by the Maya and other Mesoamerican cultures for designing and laying out art and architecture.

Powell, Melissa, ed. *Secrets of Casas Grandes*. Museum of New Mexico Press, 2006. A collection of papers about pottery and art forms from Casas Grandes (Paquime) and interpretations of its iconography.

Restall, Matthew. *The Maya World: Yucatec Culture and Society, 1550–1850*. Stanford University Press, 1997. A reconstruction of Maya life in the

colonial period put together from a variety of written sources, including letters, census records, taxation laws, and maps.

Robertson, Merle Greene. *The Sculpture of Palenque*. 4 vols. Princeton University Press, 1983–1991. An exhaustive study of everything known about Palenque as of the 1980s. Specifically focused on art and iconography.

Roys, Ralph. *The Indian Background of Colonial Yucatan*. University of Oklahoma Press, 1972. A description of Maya society during the colonial period based on Spanish accounts and the Chilam Balam of Chumayel, a Maya history book written in our alphabet by the Maya themselves in the 1600s.

Scarborough, Vernon, and David Wilcox, eds. *The Mesoamerican Ballgame*. University of Arizona Press, 1993. A good collection of papers about ball courts across Mesoamerica and the mythological stories that surround the ball game.

Schaafsma, Curtis F., and Carroll L. Riley, eds., *The Casas Grandes World*. University of Utah Press, 1999. A volume of papers about the Casas Grandes (Paquime) settlement and the sites of the surrounding region.

Schele, Linda, and David Friedel. *A Forest of Kings: The Untold Story of the Ancient Maya*. William Morrow, 1990. A portrayal of ancient Maya life presented in the form of vignettes about days in the lives of Maya kings.

Schele, Linda, and Peter Mathews. *The Code of Kings*. William Morrow, 1998. The functions of Maya buildings discussed by building types and supported by translations and artifact assemblages.

Schele, Linda, and Mary Miller. *Blood of Kings: Dynasty and Ritual in Maya Art*. George Braziller, 1992. A landmark publication that explained bloodletting and many other Maya religious rituals that had to do with divine kingship.

Schlesinger, Victoria. *Animals and Plants of the Ancient Maya*. University of Texas Press, 2001. An overview of flora and fauna in the Maya area arranged by region. Includes a long opening about Maya cultural history.

Sharer, Robert. *The Ancient Maya*. 6th ed. Stanford University Press, 2006. An exhaustive textbook of almost 1,000 pages that covers all aspects and time periods of ancient Maya civilization.

Shook, Edwin. *The Great Wall of Mayapan*. Carnegie Institution of Washington, Department of Archaeology, Current Reports, No. 2, Washington, DC, 1952. Field report of the project that first recorded the wall surrounding Mayapan. Includes many other excavations.

Smith, Michael E. *The Aztecs*. 3rd ed. Wiley-Blackwell, 2012. A book that discusses not just the Aztec capital but many of the other, lesser known Aztec sites. A good source for studying various aspects of Aztec everyday life.

Spores, Ronald, and Andrew K. Balkansky. *The Mixtecs of Oaxaca: Ancient Times to Present*. University of Oklahoma Press, 2013. A good summary of Mixtec codex studies and archaeology. Part 2 is a study of colonial documents to explain what happened to the Mixtecs from conquest up until the modern day.

Stephens, John Lloyd. *Incidents of Travel in Central America, Chiapas and Yucatan*. 2 vols. Harper (1841), reprinted by Dover, 1962. The chronicles of some of the first travelers to visit the Maya ruins, John Lloyd Stephens and his artist, Frederick Catherwood.

Stuart, David, and George Stuart. *Palenque: Eternal City of the Maya*. Thames and Hudson, 2008. An in-depth look at Palenque's dynasty and mythological texts that reinterprets many of the old ideas regarding its patron deities and relationship with other Classic Maya cities.

Stuart, Gene S. *The Mighty Aztecs*. National Geographic Society, 1981. A book about Aztec history that connects the Aztecs' modern descendants to traditions and places. Great photos and drawings.

Tedlock, Barbara. *Time and the Highland Maya*. Rev. ed. University of New Mexico Press, 1992. An ethnography about the day keeper shamans of highland Guatemala. Written by an American scholar who was herself initiated as a shaman.

Tedlock, Dennis. *Popol Vu: A Translation*. 2nd ed. Simon and Schuster, 1996. The story of the Maya creation myth, which is key to understanding Maya religion.

Thompson, J. Eric S. *Maya Hieroglyphic Writing*. University of Oklahoma Press 1971. One of the original books on Maya hieroglyphs. Includes Thompson's T Numbers system, still used by scholars today.

Townsend, Richard F., ed. *Ancient West Mexico: Art and Archaeology of the Unknown Past*, Thames and Hudson, 1998. A great collection of papers from the top authorities on west Mexico's ancient culture. Many ceramics photos.

Webster, David. *The Fall of the Ancient Maya*. Thames and Hudson, 2002. A book dedicated to the various theories about why the Classic Maya abandoned their cities.

Willey, Gordon, and Richard Leventhal. "Prehistoric Settlement at Copan." In *Maya Archaeology and Ethnohistory*, edited by N. Hammond, pp. 75–102. University of Texas Press, 1979. Important baseline study of Copan's settlement of the surrounding valley.